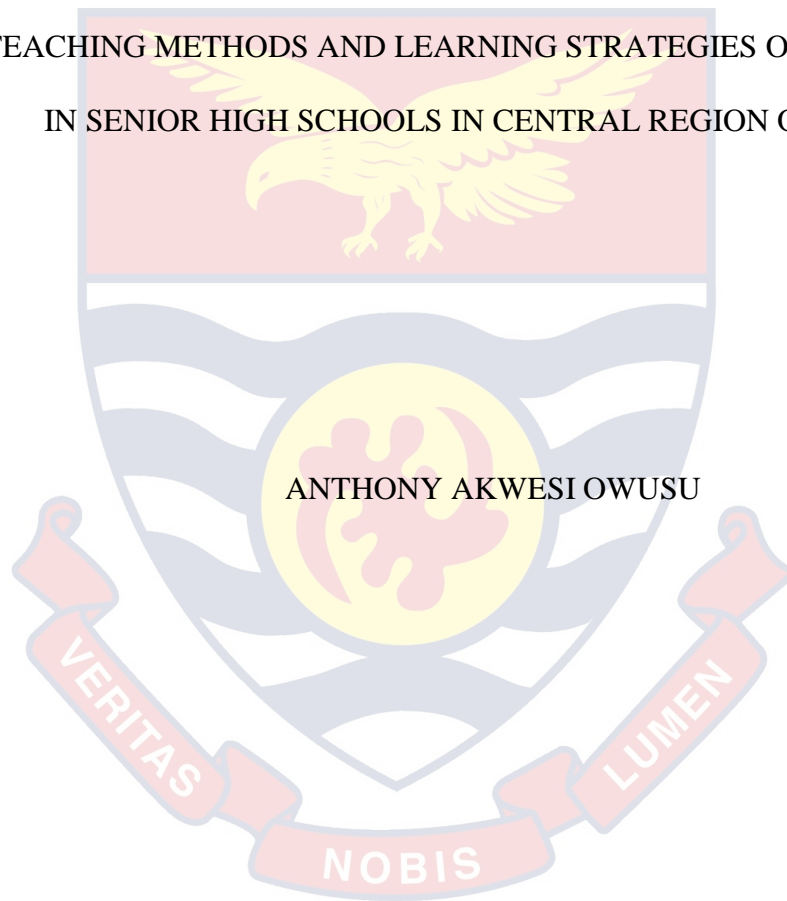


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TEACHING METHODS AND LEARNING STRATEGIES OF ECONOMICS
IN SENIOR HIGH SCHOOLS IN CENTRAL REGION OF GHANA

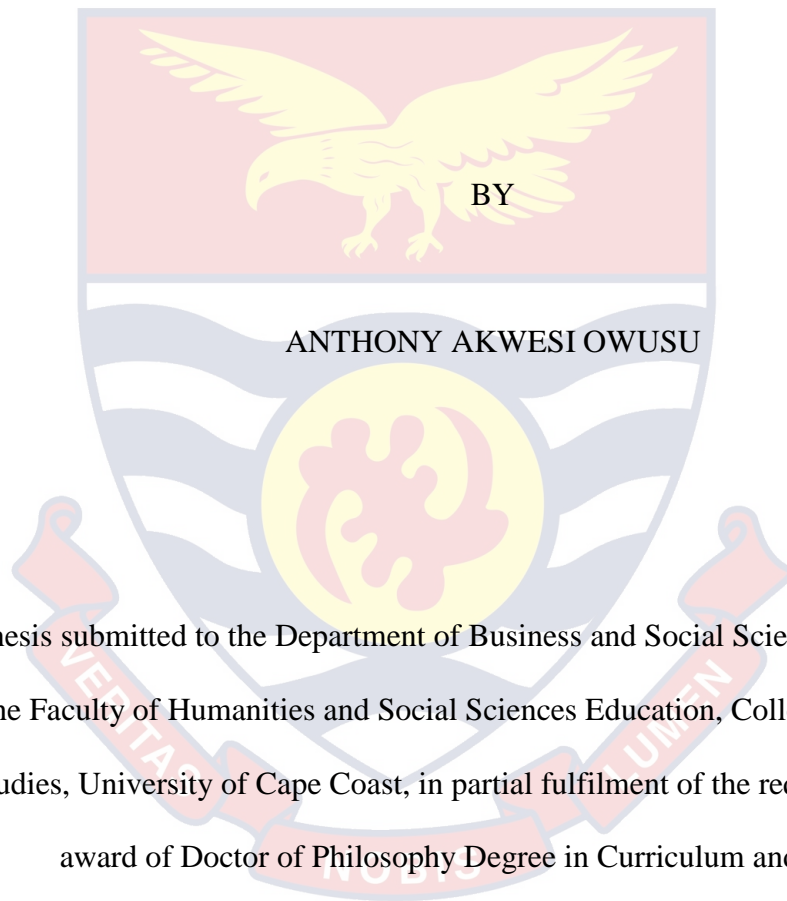


ANTHONY AKWESI OWUSU

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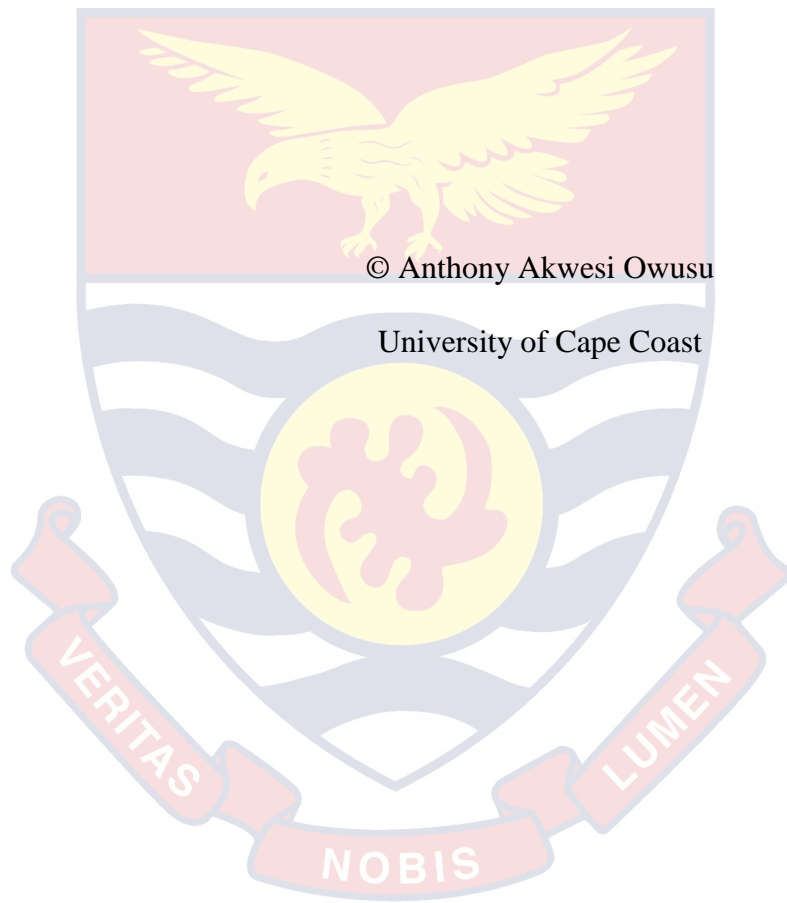
UNIVERSITY OF CAPE COAST

TEACHING METHODS AND LEARNING STRATEGIES OF ECONOMICS
IN SENIOR HIGH SCHOOLS IN CENTRAL REGION OF GHANA



This thesis submitted to the Department of Business and Social Sciences Education of the Faculty of Humanities and Social Sciences Education, College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Doctor of Philosophy Degree in Curriculum and Teaching

JUNE 2018



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University of Cape Coast

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature Date

Name: Anthony Akwesi Owusu

Supervisors' Declaration

We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature Date

Name: Prof. Cosmas Cobbold

Co-Supervisor's Signature Date

Name: Dr. James Atta Peprah

ABSTRACT

The purpose of this study was to explain and describe the extent to which background factors (student and school) influence learning strategy choice of Senior High School (SHS) Economics students in the Central Region of Ghana. The study employed the partially sequential dominant status-quantitative design. Data were gathered through questionnaires, observation and interviews. In all, 720 third year students were selected from 24 public and private schools in the region using stratified random sampling. Purposive sampling techniques were used to pick three schools for classroom observation and six students for the interviews. The study showed that teachers used student-centred methods of teaching even though the observation showed otherwise and the cognitive learning was the most preferred learning strategy of students in the region, the interviews showed that students mostly preferred meta-cognitive learning strategies. Regression results showed that learning styles and teaching methods significantly predicted cognitive learning strategies whereas learning styles, teaching methods, motivation, and student status significantly predicted students' use of meta-cognitive learning strategies. Finally, learning styles, teaching methods, student status, and school-type significantly predisposed students to use of resource management learning strategies. Among other things, the study concluded that using student-centred teaching methods can help students 'learn how to learn'. Therefore, teachers should shift from the use of traditional teacher-centred methods to student-centred methods to improve learning outcomes in economics at the SHS level.

ACKNOWLEDGEMENTS

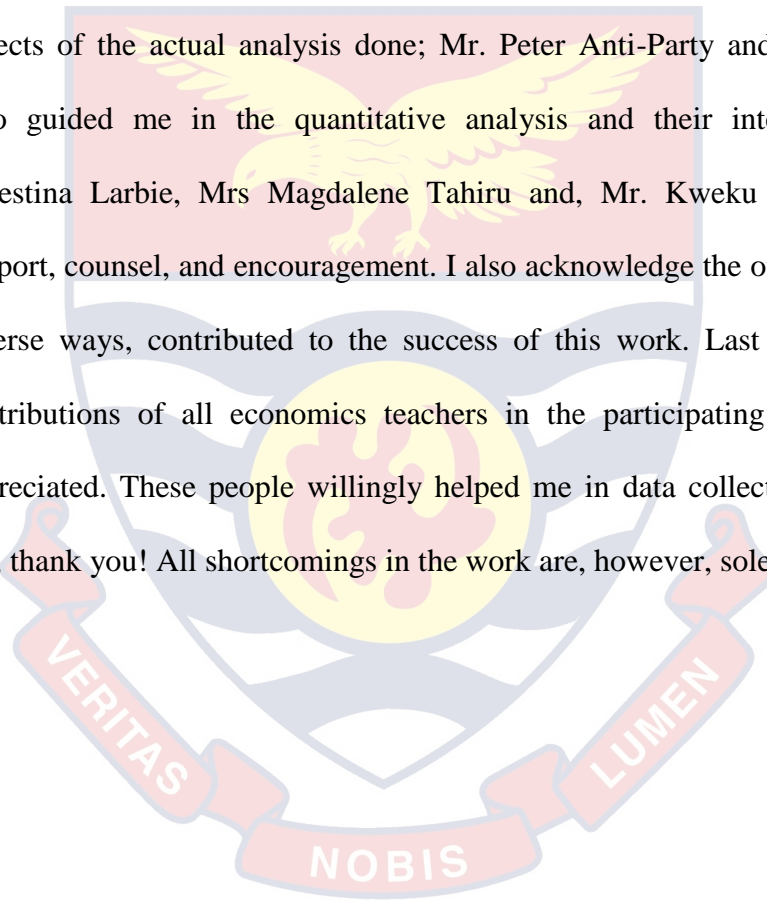
The realization of this thesis would not have been possible without the priceless roles of certain individuals and personalities. First, I wish to express my profound gratitude to my Principal Supervisor, Professor Cosmas Cobbold of the Department of Business and Social Sciences Education and the Director of the Centre for Teacher Professional Development, University of Cape Coast for his invaluable contribution towards realization of this thesis. His impeccable academic qualities and meticulous attention to details, constructive criticisms, and prompt feedback shaped this thesis. Second, to my Co-supervisor, Dr. James Atta Peprah, of the Department of Economics, University of Cape Coast for his honest remarks and constructive suggestions. But for the hard work of both supervisors, my dream of realizing this piece would have remained a mirage.

I would like to specially thank my family for their amazing love, inspiration, moral, and emotional support. I could not have achieved this feat without the love and support of my lovely wife, Dr. (Mrs.) Georgina Asi Owusu and my dear son, Nana-Nhyira Eto Owusu. Again, I appreciate the love and support of my Father in the Lord, Mr. Moses Amos Ntow (the Cape Coast Area Deacon of the Church of Pentecost), for his love and encouragement in difficult moments.

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Also to my friends and colleagues in the College of Education Studies: Mr. Enoch Apori, who did the entire inputting of data and also helped in getting aspects of the actual analysis done; Mr. Peter Anti-Party and Mr. Chei Bukari who guided me in the quantitative analysis and their interpretations; Miss Ernestina Larbie, Mrs Magdalene Tahiru and, Mr. Kweku Holman for their support, counsel, and encouragement. I also acknowledge the other people who in diverse ways, contributed to the success of this work. Last but not least, the contributions of all economics teachers in the participating SHSs are highly appreciated. These people willingly helped me in data collection. To you all, I say, thank you! All shortcomings in the work are, however, solely mine.



DEDICATION

In loving memory of my late mother, Mary Adwoa Sarpomah, whose dream was to see me reach this level in education. You were such a wonderful mother!



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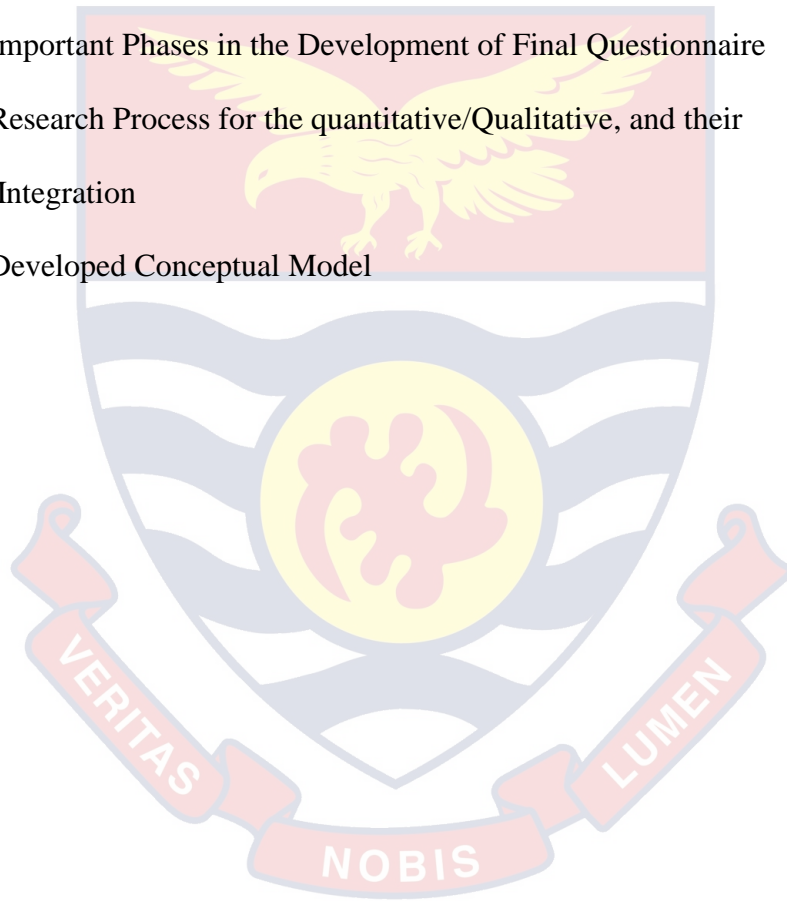


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CHAPTER ONE

INTRODUCTION

The declining level of students' performance in all subjects at the Senior High School (SHS) level in Ghana is worrying (Awuah, 2016). Students' performance at the Senior High School in Ghana particularly in Economics has been discouraging, a situation that gives cause for worry. The statistics on students' performance show that in 2006, out of 67,939 Economics students who sat for the West African Senior Secondary Certificate Examination (WASSCE) exam, 9.18% (males) obtained grades between A1 and C4 whereas only 4.85% (females) obtained the pass grades (i.e. between A1 – C4) in Economics nationwide. In all, the national pass rate for Economics that year stood at 14.03%. Two years later (2008) the figure dropped to 9.8%, representing 4.23% decline in the national performance in Economics. Performance in Economics for 2013 showed improvement of about 31.59% from the 2008 national figures (i.e. from 9.8% to 41.39%). The national performance figure in 2014 for the subject fell to 28.11%, representing a 13.28% comparing it with the 2013 figure (Statistics on Performance, 2006; 2008; 2013; 2014). Performance of students nationally in Economics has been hovering around 28.11%. This level of student performance is not good enough and may require some efforts to target a 100% performance someday.

A number of past studies have attributed this low performance level to so many reasons. Tamada (1996) noted that several factors are responsible. Chiefly among the factors for this failure is the use of inappropriate learning strategies

(Tamada, 1996). Ghana, unlike some countries, (e.g. Sweden and Germany) has no formal curriculum programme instituted to teach students to use appropriate learning strategies. Elsewhere, teachers, as part of their work, teach students how to foster their use of self-regulated learning strategies (Klieme, Pauli, & Reusser, 2009; Ferreira & Veiga Simão, 2012; Kistner, Rakoczy, Otto, Klieme & Büttner, 2015). Therefore, a study to examine learning strategies used by students becomes very crucial and valuable since it may help to ensure student learning success.

A study of this nature may help to equip Economics teachers with the requisite expertise to develop in students, self-regulatory strategies to enable them achieve the desired academic success. This, when accomplished, may improve the current low performance of students in Economics as evidenced by the national statistics on the West African Senior Secondary Certificate Examination, (WASSCE). It is in this light that investigating learning strategies used by students becomes important in helping to improve performance in the subject. The findings of this study may help students address the challenges they go through in learning by enlightening them on the best strategies to use in order to optimise learning. Thus, the study would go a long way to reduce the stress and frustration students go through in their study of Economics at the SHS level.

Background to the Study

All countries rely on education to attain economic growth and social improvement. Thus, education is an important weapon for achieving sustainable economic development (Muhammedhussen, 2016). The various subject curricula are used as tools for social transformation. They play a key role in developing the

ability of a country to develop capacity for self-sustenance, growth, and development. Education has become an important tool of nations to raise the level of productivity to achieve economic growth and development (Todaro & Smith, 2012).

Economics education in particular has a central place in building human capabilities and accelerating economic progress through the acquisition of knowledge, skills, and attitude change. It is an input to economic development, reduction in poverty and inequality levels. Economics education provides the platform for the improvement in health, governance, institutional development, and appropriate policy frameworks required for societal transformation. It is evident therefore that the role of Economics education as a major driver of economic development cannot be overemphasised and discounted. In this line of thinking, Economics as a subject has become a very vital subject to be studied by SHS students. In the provision of Economics education, teachers and students have their cut-out roles to play in ensuring that what is taught is actually also learnt. Students gain knowledge through various learning strategies which they develop to enhance their performance. Understanding students' learning strategies helps to provide curriculum designers, school authorities, teachers and students with clear and comprehensive framework that shapes students and optimises their learning (Fourth Valley College, 2014).

Students from the Junior High School (JHS) transit to the Senior High School (SHS) after their success in the Basic Education Certificate Examination (BECE) and some of them meet for the first time an entirely different learning

environment and different curriculum. At this level, students are also made to choose programmes they would want to pursue based on their interest. Virtually, it is the crucial level where individuals decide on the type of careers they would want to pursue in life (Oteng, Oduro-Okyireh, & Osei-Owusu, 2014). Students choose from the General Arts, Science, Agriculture, Visual Arts, Home Economics, Business and Technical programme options. Students need proper educational guidance in SHS in order to make programme choices that are congruent with their mental abilities and future aspirations (Oteng *et al.*, 2014). As Hannah and Kahn (1989) note, the choice of programmes or careers they make are based on factors like socio-economic background, age, and job security (Asaolu, 2001; Oduro-Okyireh, & Osei-Owusu, 2014).

In Ghana, second-cycle education is recognised as critical to the country's quest to develop at a faster rate because it is the most accessible form of higher education today with greater potential of sustaining higher levels of literacy, increasing political awareness, strengthening democracy and producing a pool of middle-level manpower crucial for national development (Quist, 2003). Successive governments in the country have therefore, made efforts to devise strategies to improve delivery of quality education through policy formulation and implementation and better still constituting committees to review or reform the educational system in the country to give it a face lift (Ankomah, Koomson, Bosu & Oduro, 2005).

Over 400, 000 Ghanaian students annually write the BECE examination at the end of their 3-year JHS programme in nine or ten subjects. SHS students in

Ghana study core subjects in English language, Integrated Science, Mathematics, and Social Studies as core subjects. Each student also takes in addition to these core subjects three (3) or four (4) elective subjects, chosen from various programme areas. Students' terminal reports contain rank in class for each subject as well as grades for class work and end of term exams. The grading system is tough: 80 – 100% is usually an 'A', a grade rarely earned. At the end of their programme, all students write the WASSCE in each of the programme areas. This examination is written nationwide in May-June each year, but the results are not released until October the same year. The minimum university standard for admission is credit in at least three elective and three core subjects. Students are expected to re-sit the failed papers. The West African Examinations Council (WAEC), being aware of the relatively high failure rates annually organises private exams for students who fail in some subjects during the regular programme. These examinations are often conducted in November-December every academic year. During this period, students are expected to prepare from the syllabus handed to teachers by the Ghana Education Service (GES) and to pass to enable them enrol at the tertiary level.

The general aims of the senior high school Economics syllabus spells out, among other things, are to help students acquire basic economic concepts, principles and tools for economic analysis and acquire greater understanding of the roles of households, businesses and governments in economic development. It also aims to develop students' ability to analyse the structure, and functions of commercial, agricultural, industrial and financial institutions and appreciate the

economic development policies and strategies of the government and their inherent problems (CRDD, 2010). Lastly, in the wisdom of the syllabus designers, the syllabus aims to help students understand the relationship between the Ghanaian economy and external economies in respect of trade and integration (CRDD, 2010).

In scope, the course covers the concepts and general principles of Economics at micro and macro levels. It provides adequate knowledge for economic deliberations and analysis of economic issues by students who will terminate their education at the SHS level. Additionally, it provides a sound foundation for those who may wish to further their studies in Economics at the tertiary level (CRDD, 2010).

The syllabus for Economics advocates and provides guidelines for teachers to use teaching and learning activities that ensure maximum participation and optimum student learning (Curt *et al.*, 2014; CRDD, 2010). In it, Economics teachers are encouraged to emphasise participatory teaching that engenders the right learning strategies. This implies that students should be encouraged to acquire the habit of analytical thinking, developing problem-solving attitudes, engaging in cooperative learning (McGoldrick, 2012) and obtaining a capacity for applying their knowledge in dealing with practical economic issues both in and out of school (Curt *et al.*, 2014; CRDD, 2010). To optimise learning, students must adopt appropriate learning strategies which have been found to be influenced by certain student and school factors (Tamada, 1996).

Learning strategies influence the success of students learning and have subsequently been the primary concern of some researchers (Chen, 2002; Alireza & Abdullah, 2010). Rubin (1975) stated that the main underlying assumption behind learning strategies research has been that one of the factors that makes “good” learners good is their use of appropriate learning strategies. Having enough knowledge about successful learners’ use of learning strategies can provide teachers with skills to coach less successful learners with those strategies and consequently enhance their learning.

Learning strategies have been conceptualised variously by different authors. In fact, the concept has not always been universally agreed upon. Cohen (1998, p. 3) states that there are, “conflicting views” and Ellis (2002, p. 529) argues that the concept of learning strategy is, “a somewhat fuzzy one, and...not easy to tie down”. Nonetheless, the concept has long been regarded important in the field of education (Simsek, 2010). Rubin (1975 p. 43) describes them as “...the techniques or devices which a learner may use to acquire knowledge.” Richards, Platt and Platt (1992, p. 209) also define these as, “intentional behaviour and thoughts that learners make use of during learning in order to better help them understand, learn, or remember new information.” In a well-known study, Chamot (1987) in Wenden and Rubin (1987, p. 19) labelled the term as “...any sets of operations, steps, plans, routines used by the learner to facilitate the obtaining, storage, retrieval, and use of information.” However, learning strategy is conceptualised in this study to mean the orderly behaviour or actions of students aimed at helping students accomplish their learning task. They are

understood within the cognitive, metacognitive, and resource management strategies framework as postulated by McKeachie, Pintrich, Lin, and Smith (1986).

Literature on learning strategies has shown that students are more successful in accomplishing academic tasks, when they recognise and use higher order metacognitive learning strategies (Dunlosky, Katherine, Marsh, Mitchell, & Willingham, 2013; McCabe, 2011). Metacognitive learning strategies have been proven to have a highly positive effect on improving learning results (Saalik, 2015; Saalik, & Nissinen, 2013; Pennequin *et al.*, 2010; van der Stel & Veenman, 2010). Very close to learning strategies is the notion of self-regulated learning.

During the last decades, self-regulated learning has been under steady investigation and various models and theories on that construct have been developed (Zimmerman, 2000; Schmitz & Wiese, 2006; Otto, 2010). To regulate their own learning, learners have to access the repertoire of learning strategies. Different types of learning strategies have been found to play a role in self-regulated learning.

It is generally accepted that instructional practices should assess and accommodate learning strategies of individual students. It is, however, not an easy task to design and implement truly adaptive modes of instruction in public education because learning strategies may vary significantly from one student to another. Due to the learning strategy differences, instructional designers are to develop instructional systems that are sensitive to learning strategies of each student, both in group instruction and individual learning contexts. Instructional

designers and classroom teachers are generally aware that there are a number of learning strategies from which students select and use (Tamada, 1996). The aforementioned background provided the perspective from which the problem for the study was derived.

Statement of the Problem

There are innumerable ways in which students' process information they receive from the environment (Fayombo, 2015). For quite some time now, stakeholders in the field of education have become more and more aware of the critical importance of understanding how students learn maybe because this impacts the teaching strategies, academic performance and learning outcomes (Brady, 2013, Tulbure, 2012). The concept of learning strategy has provided some valuable insights into how students' learning could be enhanced. A student's distinctive behaviour which serves as indicators of how they learn by adapting to their environment provides clues to enhancing the learning success.

Learning strategies play a crucial role in the acquisition of knowledge of every sort. They help students gather new information and then help them assimilate those acquired information into their existing knowledge. Appropriate learning strategies explain performance discrepancies of students in general whereas inappropriate ones exacerbate students' learning problems (Sadighi & Zarafshan, 2006).

During the past decades, many studies have been done on learning strategy use and effective language learning and the difference of reading strategy use between successful and less successful learners (McIntyre & Noels, 1996; Mah,

1999; Hong-Nam & Leavell, 2006; Khamkhien, 2010). A critical look at these studies reveals that they mostly touched on language learning strategies outside Ghana. In fact, a lot of these studies were conducted in second/foreign language education (O'Malley, Chamot, Stewner-Manzanaraes, Russo, & Kupper 1985b; Oxford & Crookall, 1989) but with little work in the social sciences. These studies explored language learning strategies (LLSs) that language learners use either consciously or unconsciously (Oxford & Nyikos, 1989; Ehrman & Oxford, 1989, 1990; Oxford & Anderson, 1995). The literature on learning strategies shows that most of these studies explored variables linked to language learning.

Oxford (1989) in a study asserted that a strong relationship existed between an individual's use of learning strategies and their personal and school factors. Tamada (1996) corroborated that assertion by coming out with a number of student and school environmental factors that influenced learning strategies used by students. Among these factors were motivation, learning styles, sex, school type, student status among others. Learning styles and especially learning strategy application differ across individuals in terms of such variables as gender, motivation/interest to study, learning styles, school-type and student status. Therefore, exploring learners' background variables behind their learning strategy choice at the SHS may help reduce the many mismatches between for instance learning styles and learning strategies thus enhancing learning.

Another study conducted by Berry (2008) claimed that four key elements characterised all active learning approaches. These were given as critical thinking, individual responsibility for learning, involvement in open-ended activities, and

organisation of learning activities by the teacher with emphasis only on students' cooperative learning without examining how student background variables determine students learning strategies. That study did not examine students' learning strategies from the point of view of the cognitive, metacognitive, and resource management strategies theorised by Pintrick *et al.* (1991).

Again, literature on this subject has a lot of gaps in the sense that the scope of most of the past studies has not fully exhausted the numerous challenges that confront students' learning. Most of them instead, focused on understanding probable determinants of students' academic performance without a deliberate effort to focus on student learning strategies which are a sine-qua-non for high academic performance. There are still a number of vexed questions which remain unexplored. For instance, what teaching methods do Economics teachers in SHS in the Central Region use and what are the common learning styles of students? What are the learning strategies adopted by students and which of these strategies are preferred by visual, auditory, and kinaesthetic students in the Central Region? In addition, is there a relationship existing among teaching method, school type, student status, and learning styles of Economics students? Finally, what factors predict students' learning strategy use among Economics students? These are issues of immense importance that this study may seek answers to.

Clearly, there seems to be only few studies that examined learning strategies of Economics students even though enough have been seen in second and foreign language education (Saalik, 2015; Chamot, 2005; Hsiao, & Wharton, 2000; Grenfell, 1999). The identified gaps in the literature stirred me up to

investigate the student and school background variables behind students' learning strategy choice among SHS students in the Central Region.

Purpose of the Study

The purpose of this explanatory sequential mixed method (i.e. the partially sequential dominant status-quantitative design) was to explain and describe how background factors (student and school) influence learning strategy choice of SHS Economics students in the Central Region of Ghana. Specifically, the study sought to achieve, among other things, the following specific objectives:

1. describe the methods teachers used in teaching Economics at the SHS in the Central Region of Ghana.
2. describe the learning styles of SHS Economics students in the Central Region of Ghana.
3. examine the learning strategies adopted by Economics students in the Central Region of Ghana
4. describe the learning strategies preferred by Economics students in the Central Region of Ghana who use visual, auditory, and kinaesthetic learning styles.
5. test whether teaching method, sex, student motivation, learning style, school type, and student status predicted Economics students' use of a cognitive, meta-cognitive, and resource management learning strategies in the Central Region.

Research Questions and Hypotheses

Research Questions

The study was guided by the following four research questions

1. Which teaching methods are used by SHS Economics teachers in the Central Region of Ghana?
2. Which is the dominant learning style adopted by SHS Economics students in the Central Region of Ghana?
3. Which learning strategy is most preferred by Economics students in the Central Region of Ghana?
4. Which learning strategies are preferred by Economics students in the Central Region of Ghana who adopt visual, auditory, and kinaesthetic learning styles?

Hypotheses

The central hypothesis for this study is, '*student factors (sex, learning style, motivation) and school factors (teaching method, school type, and student status) significantly predispose Economics students to a particular learning strategy*'.

Three hypotheses were formulated from this overarching hypothesis to examine the relationship among the explanatory and the dependent variables. These hypotheses were:

1. H₀: Teaching method, sex, student motivation, learning style, school type, and student status do not significantly predict Economics students' use of cognitive learning strategy.
H₁: Teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of cognitive learning strategy.

2. H_0 : Teaching method, sex, student motivation, learning style, school type, and student status do not significantly predict Economics students' use of meta-cognitive learning strategy.

H_1 : Teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of meta-cognitive learning strategy.

3. H_0 : Teaching method, sex, student motivation, learning style, school type, and student status do not significantly predict Economics students' use of resource management learning strategy.

H_1 : teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of resource management learning strategy.

Significance of the Study

The present research without doubt makes a notable contribution to research on student learning at the second cycle level in Ghana. Knowledge about learning strategy has useful implications for curriculum and instruction since it is beneficial in various ways (Sarasin, 2006). One of the ways is that it provides evidence for disciplinary research on learning strategies. The study has pedagogical implications in the classroom. For instance, some schools in other jurisdictions (excluding Ghanaian ones) have implemented adjunct programmes that attempt to teach learning strategies inside and outside the context of specific domains with little success" (Judd, 2005, p. 33). Researchers have found that for these programmes to be successful, the learning strategies need to be

contextualised within students' normal academic schedules. In this regard, a study of this kind may help enlighten students about the learning strategies to use in order to optimise learning. In fact, the emerging evidence of the factors that influence learning strategies may go a long way to educate students to adopt the right learning strategies which are a sine-qua-non for success.

Again, since automatic use of learning strategies and its subsequent transfer across academic domains requires years of practice within the context of normal class, this study is likely to provide bases to advocate for introduction of teaching and learning strategies as part of SHS students' educational programmes to ensure that students perform well in their chosen programmes.

Furthermore, the study may help intensify teacher education on how they could embed opportunities for students to self-regulate in their existing instructional strategies. The study actually provides teachers with sound knowledge about students learning strategies. With this education, teachers are well positioned to build students' perceived self-efficacy belief in addition to inculcation of appropriate self-regulatory strategies which are sine-qua-non for academic success where hitherto they would have failed. This knowledge when incorporated into their teaching may provide teachers vital skills for enhanced teaching or instruction.

Additionally, information from this study may equip teachers and provide them with the instructional strategies to develop it in students. Giving students more control over their learning increases their self-efficacy, which allows them to persist and finish their academic work in excellence. It is my firm hope and

belief that the findings of this study accomplishes the set targets and when it does, the benefits may transcend the SHS even to the tertiary level.

Lastly, the study is vital because it helps endorse known trends in student engagement while at the same time, potentially offers relevant information to policy-makers and school authorities about the importance of supportive structured environments necessary for optimum learning. Above all, the materials reviewed serve as a rich source of relevant literature for future investigators in Ghana who may desire to explore further into the issues related to student learning strategies.

Delimitation

The concept about learning strategies is multifaceted but the current study was limited in scope to the extent to which background variables (teaching method, sex, learning styles, motivation, school type, and student status) influence learning strategy choice scrutinised from the scholarly lenses of McKeachie *et al.*, (1996). In terms of participants, the study was delimited to six (6) private and 18 public SHSs in the Central Region. It focused only on final year Economics students for the 2017/2018 academic year in the Central Region. It is my wish to generalise findings to cover all SHSs Economics students in the Central Region.

Limitations

This correlation study, like many others, is confronted with some flaws relating to the sample size and adverse impact on the statistical power (the probability of rejecting a false null hypothesis). Weaknesses in margins of error in both the descriptive and inferential statistical tools (multiple regression)

constituted a limitation to this study. Flaws relating to the apparent lack of literature on the subject in Ghana pose a limitation since this creates conceptualisation challenges in the notional issues relevant to the study.

Finally, only the views of final year students were surveyed. This means that the voices of the greater majority of Economics students are not covered in the study. Problems associated with administration and completion of questionnaires such as withholding of vital information, eventually affect data credibility (Corbetta, 2003). Possible exaggerations on the part of participants are likely to lead to collection of inaccurate data. Despite these, the choice of a mixed methods design helped to offset flaws associated with the quantitative or qualitative methods. The data triangulation from different sources helped to cross-check authenticity of the information which was intended to improve validity and reliability of findings (Creswell, 2011).

Definition of Key Terms

The key terms used in this study have been operationally defined as follows:

- 1. School Type:** This denotes whether a particular chosen school is publicly or privately owned.
- 2. Public Senior High Schools:** These are second cycle schools funded solely by the government of Ghana through subventions. Their day-to-day activities are superintended by Ghana Education Service Staff in the various district education offices. There are 56 of these schools in the Central Region (EMIS CENTRAL, 2017/2018).

3. **Private Senior High Schools:** These are second cycle schools solely funded by private business people. They are permitted to operate only after being accredited by the GES.
4. **School Status:** It denotes whether a particular senior high school is day or boarding/hostel. In this thesis, a student may either be a day-student or a boarder/hosteller.
5. **Teaching methods:** It is a set of principles, beliefs, or ideas about the nature of learning which are translated into classroom teaching. They encompass three-dimensional activity areas such as the teacher-learner activities, teacher engagement of students with the subject matter, and nature of teacher support provided to students to facilitate learning.
6. **Learning style(s):** They are concerned with how students prefer to learn not what they learn. It relates to an individual's preferred means of acquiring knowledge and skills or a person's typical approach to learning.
7. **Learning Strategy:** The concept of learning strategy has not always been universally agreed upon but it is generally defined as specific actions, behaviours, steps, or techniques such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult learning task used by students to enhance their own learning.
8. **EMIS:** This refers to the Education Management Information System of the Ghana Education Service. This is a unit within the GES responsible for collating data on educational infrastructure and human resource at the basic and second cycle levels.

Organisation of the Study

The study is structured into five chapters. Chapter One looked at the introduction of the study, background to the study, statement of the problem, purpose of the study, research questions and hypotheses, significance of the study, limitation, delimitations, and definition of key terms. Chapter Two discussed the review of relevant literature which was thematised into theoretical, conceptual, and empirical reviews. Chapter Three focused on research methods. This chapter exposed readers to the research paradigm that informed the choice of the design, the study area, the population, the sample and sampling procedure. Also, the chapter described the data collection instruments, data collection procedures, and data processing and analysis.

Chapter Four concentrated on the results and discussion. This chapter commenced with a brief restatement of the purpose of the study and a summary of the research methods. It further described the actual sample finally used and its characteristics. The chapter then exhaustibly presented the results in relation to the research question with context-based interpretation in reference to previous studies. The descriptive statistics covering the research questions and the findings from the hypotheses testing were discussed in this chapter. The chapter ended with a summary of key findings. Chapter Five, the last chapter, focused on the summary, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

Overview

This study sought to investigate the learning strategies adopted by SHS Economics students in the Central Region of Ghana. The study focused on how school and student background characteristics predisposed students to use particular learning strategies. This chapter focuses on the review of literature related to the topic of study. It begins with the context of the study, followed by the theoretical literature, which aims at building and sharpening the theoretical and conceptual focus of the study. In this regard, relevant literature on the theories of learning with particular reference to behavioural, constructivist and cognitivist theories are reviewed, and a theoretical framework for the current study developed. Finally, previous studies related to the current study are reviewed with a view to situating the latter within the context of the former. The chapter ends with the implications of the literature review for the current study.

THE CONTEXT OF THE STUDY

This study is situated within the context of SHS education in Ghana generally and the teaching of Economics in SHS specifically.

The SHS Programme in Ghana

The Senior High School (SHS) is the second phase of the high school education system in Ghana after students' transition from the Junior High School (JHS). The SHS programme is the transition period between JHS and the university. At the end of Senior High School, all students take the West African

Senior Secondary Certificate Examination, or WASSCE, (SSCE through 2005; WASSCE beginning in 2006) in each of their seven or eight subjects. Grading is exceptionally tough: fewer than 3% of grades are A1's, and 40% of students fail any given exam. C4, C5, C6's and D7's can be quite competitive grades. The minimum university standard for admission is credit in at least three elective and three core subjects. Students are expected to retake exams in subjects they have failed. The WAEC, being aware about this, also organises private exams for students who trail in some subjects during the regular programme. These examinations are often conducted in November/December every academic year.

The Government of Ghana has done a lot over the years to improve access to quality Senior High School (SHS) education in the country. She obtained World Bank funding to support the its strategy to improve secondary education. The Secondary Education Improvement Project (SEIP), approved an amount of \$156m (one hundred and fifty six million dollars) in May 2014 to support the government's secondary education programme with aim of increasing equitable access to and participation in education at all levels; improving the quality of teaching and learning for students from poor families especially girls (GoG, 2014).

In addition, government made budgetary provision for education and also approached other donors for funds to construct Community SHSs. Several initiatives were taken to ensure that a good atmosphere for learning was provided. It has also made moves to make sure that a place where students can effectively participate in the process of learning is created and developed to facilitate the

process of learning (GoG, 2014). Government, through several educational improvement platforms advocated for school site layouts that facilitate grouping of spaces related to the same functions such as study areas, administration offices, sports, and recreation areas or communal.

Teaching of Economics at the SHS in Ghana

In the Ghana, Economics is one of the elective subjects taught at the SHS incorporated into the General Arts, Home Economics or the Business programme. It is one of the subjects which is not offered at the JHS and therefore students encounter it in their SHS studies for the first time. Students often lack the fundamental knowledge of the subject even though one of the requirements to study Economics as prescribed in the syllabus is for students to have competitive skills in Mathematics as a basis to study Economics (CRDD, 2010). However, the programme packages in the various SHSs only provide students with the opportunity to decide on the type of education they need for their career without their recourse to their mathematical expertise in the subject.

In terms of scope, the course covers the concepts and general principles of Economics at micro and macro levels. It provides adequate knowledge for economic deliberations and analysis of economic issues by students who may terminate their education at the SHS level. It also provides a sound foundation for those who may wish to further their studies in Economics at the tertiary level (CRDD, 2010). The syllabus for Economics actually provides guidelines for teachers and advocates for them to use teaching and learning activities (T/L) that

ensure maximum participation and optimum student learning (Curt *et al.*, 2014; CRDD, 2010).

The syllabus has been designed to cover the three years SHS programme. Each year's work is divided into a number of sections and a number of units for each section. The first year comprises five (5) sections, the second year consists seven (7) sections and the third year encompasses six (6) sections. Each of the sections has been broken down into units and sub-sections with their associated specific objectives, content, teaching/learning activities, and evaluation. In all, the syllabus consists of 18 main sections which have been summarised in Table 1.

Table 1: Structure of the Three-Year Senior High School Economics Syllabus

Year	Sections	Topics to be covered
1	Section 1	Fundamental concepts in Economics
	Section 2	Factors of production
	Section 3	Economic systems
	Section 4	Price theory (Demand)
	Section 5	Price theory (Supply)
2	Section 1	The theory of production
	Section 2	Prices of factors of production
	Section 3	The theory of costs and revenue
	Section 4	Distribution trade
	Section 5	The theory of consumer behaviour
	Section 6	The national income accounting and determination
	Section 7	Agriculture and industry
3	Section 1	Money and financial institutions
	Section 2	Public finance
	Section 3	International trade
	Section 4	Economic cooperation
	Section 5	Economic development planning
	Section 6	Contemporary economic issues

Source: Teaching Syllabus for Economics (SHS 2-4), 2008.

Teachers ought to introduce students to the economic concepts that appear in each of the 18 sections of the syllabus and students are also expected to demonstrate ability to define and analyse these economic notions. The syllabus actually encourages teachers and students to construct their own approach to teaching and learning. Only topics listed in the evaluation columns are normally selected for assessment at the WASSCE. The syllabus is designed to assess candidates' knowledge of basic economic principles needed for rational decision making relating to individuals, businesses, the government and society. Such knowledge is necessary in enhancing their appreciation of government economic policies, problems of implementation and how they impact the economy. Candidates are expected also to understand and appreciate that Economics is not only an academic field of study but also a practical subject (CRDD, 2015). Teachers in their teaching must therefore introduce students to the accurate use of diagrams and appropriate use of examples. Students may then be in a position to adopt suitable learning strategies in order to increase their economic literacy skills which are desired attributes in the study of Economics.

Recent changes in the perceptions of people and the global economy have affected the continued preference for science. In recent times, high schools record high student enrolments in Accounting, Management, and Economics at the SHS. Although students' preference for business programmes is increasing in Ghana, most of the students are unable to apply economic concepts in real life situations. This development, according to Nazeer, (2006) is of major concern to educational practitioners and teacher educators.

One possible reason is that Economics teachers are habituated to using traditional approaches to teaching which are based on the transmission model that promotes neither interaction between prior and new knowledge nor the conversations that are necessary for internalisation and deep understanding (Cannella & Reiff, 1994). Traditional teaching is concerned with the teacher being the controller of the learning environment (Saidin & Brahim, 2011). Power and responsibility are held by the teacher and they play the role of instructor and decision maker. In other words, the traditional teacher views that it is the teacher that causes learning to occur (Novak, 1998). The information acquired from traditional teaching appears not well integrated with other knowledge held by the students. Thus, new knowledge is often only brought forth for school-like activities such as exams, and cannot be used in different contexts (Richardson, 1997). Another possible reason could be the strong emphasis that is placed on examination-oriented teaching in the Ghanaian education system. On their part, Cannella and Reiff (1994) labelled this type of teaching based on traditional models as didactic, memory-oriented transmission models.

Finally, Economics as a school subject and its place in the school curriculum are very much under-researched in Ghana as this was found in Maldives by (Nazeer, 2006). Despite these trends and developments in economic education throughout the world and advancement in the “global village,” it is still easy to be narrow-minded and inward looking when it comes to teaching practice. However, there is the potential to learn also about strategies students adopt to learn Economics in order to create a top-notch didactic framework that would

guide teaching to enhance teaching and learning of Economics in Ghana. At this point, it is vital to critically examine research on teaching and learning Economics and current classroom practices in teaching Economics.

THEORETICAL FRAMEWORK

The Act of Learning

Learning is considered a personal act. People place their own personal stamp on how they learn, what they learn and when they learn. Thus, everybody in effect, has their own learning style and the strategies they use to learn. The actual act of learning is paradoxical in nature in that sometimes, it can appear to be a very simple act. So simple, that we do not question its presence in how we go about our daily activities, for it is natural to our existence as learning organisms. Yet, other times, when we encounter difficulties in learning something, we no longer take the learning process for granted. It is only then that our meta-cognition or awareness of how we learn is heightened.

The existence of numerous definitions and theories of learning attests to the complexity of any learning process. A random sampling of any educational psychology text illustrates the variance in views as to what exactly is learning and how it is done. In educational psychology for example, it is defined as a change in the individual as a result of some intervention which may be viewed as an outcome or as a process. While this definition reflects a behaviourist view of learning, for it equates learning as an outcome, it is a starting point for the authors to expand their description of learning into many other realms, namely the different theories of learning. For the purpose of this study, learning is

operationalised to mean the gaining of knowledge or skills through study, experience, or being taught.

Learning Theories

Theories provide frameworks for interpreting environmental observations and serve as bridges between research and education. Research findings are usually organised and systematically linked to theories. Without theories, data collection and interpretation would be messy and professionals and researchers would lack an upper frame in which to hold themselves. Learning theories are many and vary, but they share the basic idea that learning processes play a central role in human development.

Cognitive Learning Theories

Piagetian Theory (2001)

Jean Piaget, a Swiss biologist, philosopher, and behavioural scientist developed one of the most significant theories in cognitive psychology which is the fulcrum upon which this study is hinged. Piaget's stage theory gained wide acceptance in the 1960s and 1970s as a result of the translations of his work into English and its promotion by influential American psychologists (Flavell, 1963). His impact on the field of cognitive development cannot be overstated, even though many of the precepts he developed have been criticised by subsequent evidence (Parent, Normandeau, & Larvée, 2000).

Piaget described himself as a genetic epistemologist. His work focused on developing a general theory of knowledge, how a child develops knowledge of his or her world, and the role that biology plays in that development. To Piaget,

intelligence is represented by how an organism interacts with its environment through mental adaptation. This adaptation is controlled through mental organisations or structures that individuals use to represent the world; it is driven by a biological impulse to obtain balance (homeostasis or equilibrium) between those mental organisations and the environment.

Piagetian theory can be discussed in two parts: 1) his theory of adaptation and the process of using cognitive schemes and 2) his theory of cognitive developmental stages (Huitt & Hummel, 1996). The process of coming to know, the first aspect of Piaget's (2001) theory, starts with the fact that individuals are born with reflexes that allow them to interact with the environment. These reflexes are quickly replaced by constructed mental schemes or structures that allow them to interact with, and adapt to, the environment. This adaptation occurs in two different ways (through the processes of assimilation and accommodation) and is a critical element of modern constructivism. Adaptation is predicated on the belief that the building of knowledge is a continuous activity of self-construction; as a person interacts with the environment, knowledge is invented and manipulated into cognitive structures. When discrepancies between the environment and mental structures occur, one of two things can happen. Either the perception of the environment can be changed in order for new information to be matched with existing structures through assimilation, or the cognitive structures themselves can change as a result of the interaction through accommodation. In either case, the individual adapts to his or her environment by way of the interaction. It is clear that Piaget believed that cognition is grounded in the

interface between mind and environment. The result of this interplay is the achievement or working toward a balance between mental schemes and the requirements of the environment. It is a combination of maturation and actions to achieve equilibration that advances an individual into a higher developmental stage.

The theory essentially implies all the three learning strategies in this study. The reason is that first the individual assimilates new information through cognition and also tries to interactively adapt to their environment via resource management strategies. Finally, adaption which is a vital component of the theory and premised on the principle of knowledge as a continuous activity of self-construction is linked to meta-cognitive learning strategy.

Constructivist Learning Theories

Jerome Bruner (1966)

A major theme in the theory of Bruner (1966) is that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure provides meaning and organisation to experiences and allows the individual to “go beyond the information given”. As far as instruction is concerned, the instructor and student should engage in an active dialog where the instructor is to translate information to be learned into a format appropriate to the learner’s current state of understanding. Bruner (1966) states that a theory of instruction should address four major aspects: (1) predisposition towards learning,

(2) the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner, (3) the most effective sequences in which to present material, and (4) the nature and pacing of rewards and punishments. Good methods for structuring knowledge should result in simplifying, generating new propositions, and increasing the manipulation of information.

The first one states that the students are ultimately responsible for their own learning process. The student is the one who constructs knowledge (or rather, reconstructs) and no one can replace him in that task. Second, the constructive mental activity of the student applies to the contents that already possess a considerable degree of processing. This means that the student does not have all the time to discover or invent, in a literal sense, the entire school knowledge. Since knowledge is taught in schools it is actually the result of the process of construction at social level; students and teachers can find already developed and defined large part of the programme (Díaz Barriga & Hernández Rojas, 2010).

Thirdly, the teacher's role is not limited to create optimal conditions for the student to display a constructive mental activity, but should guide and direct the activity explicitly and deliberately. Woolfolk (2012) mentions that all authors agree that constructivism represents a significant change in the interests of education by placing the student's efforts to understand in the centre of the educational enterprise.

Social Constructivist Theory

Lev Vygotsky (1978)

Constructivism originally emerged as an epistemological trend, concerned to discern the problems of knowledge formation in humans. The constructivism theorists show that humans actively construct knowledge based on what they know and also with an active relation to others with whom they interact (Pimienta, 2007). Meanwhile, Carretero (2009) states that according to the constructivist position, knowledge is not a faithful copy of reality, but a construct of the human being and that such construction is done mainly with the patterns he already owns, or with the result of the interaction with the environment. Coll (1990) mentions that constructivism is organised around three key ideas.

The inclusion of society and culture as imparters of cognitive development is most evident in the work of Vygotsky (1978). His work used social interaction as the framework for all learning and development. To Vygotsky, “the development of the mind is the interweaving of biological development of the human body and the appropriation of the cultural/ideal/material heritage which exists in the present to coordinate people with each other and the physical world” (Cole & Wertsch, 1996, p. 2). There are three major principles underlying Vygotsky’s social development theory (Wink & Putney, 2002). First, social interaction plays a critical role in cognitive development in relation to what is learned and when and how learning occurs. This principle asserts that, “without the learning that occurs as a result of social interaction, without self-awareness or the use of signs and symbols that allow us to think in more complex ways, we

would remain slaves to the situation, responding directly to the environment” (Nicholl, 1998, p. 1). The second principle associated with this theory is “the idea that the potential for cognitive development is limited to a certain time span” (Kearsley, 2001b, p. 1). Finally, Vygotsky asserted that the only way to understand how humans come to know is to study learning in an environment where the process of learning rather than the product, that is, the result of learning is studied.

Some of the inbuilt issues in Vygotsky’s theory are the Zone of Proximal Development (ZPD), Scaffolding, and the role of language in learning. The ZPD has been defined as, “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). Vygotsky viewed learners’ interaction with peers as an effective way of developing skills and strategies. He suggested that teachers use cooperative learning exercises where less competent children develop with help from more skillful peers - within the zone of proximal development ((Dixon-Krauss, 1996).

Vygotsky believed that when a student is in the ZPD for a particular task, providing the appropriate assistance (scaffolding) gives the student enough of a “boost” to achieve the task and to succeed in his/her learning (McLeod, 2012). He placed considerable emphasis on social factors contributing to cognitive development and stated that cognitive development stemmed from social interactions within the zone of proximal development as children and their

partners co-construct knowledge (Westberry & Franken, 2013). Vygotsky actually explained that the environment in which children grow up influences how they think and what they think about just as this study hypothesizes that the type of school environment may predispose students to the use of a particular learning strategy. This study sought to investigate whether the school environment has an influence on students' learning strategies. Implied in this aspect of the theory is students' use of resource management strategy of seeking the support of others in their learning. Also, the study environment becomes crucial in student learning since Vygotsky emphasized that the community plays a central role in the process of 'making meaning.' Students make use of their study environment by sometimes falling on teachers to help them out of their learning difficulties or even collaborating with their capable peers through discussions in order to master their learning fears. At the end of the day, what the student did not know initially from the class, through the guidance and encouragement of teachers, peers, and support of others from the school environment they are now able to grasp thus implying resource management learning strategy.

Scaffolding entails the assistance offered to a student or learner to master a learning concept. It is most effective when the given support is matched to the needs of the learner (Westberry & Franken, 2013). This puts the student in a position to accomplish a task with success in an activity that he/she would hitherto not be able to accomplish. Wood, Bruner and Ross (1976) named certain processes that aid effective scaffolding such as gaining and maintaining the learner's interest in the task, making the task simple, and emphasizing certain

aspects that will help with the solution. The last things Westberry and Franken (2013) mentioned include controlling the child's level of frustration and demonstrating the task. They also considered certain guidelines as key for successful scaffolding instruction. Vygotsky mentioned assessing a learner's current knowledge and experience for the academic content, relating content to what students already understand or can do and breaking learning tasks into small, more manageable units with opportunities for intermittent feedback, and the use of verbal cues and prompts to assist students.

Implied in this aspect of Vygotsky's theory is cognitive learning strategies which sum up the use of rehearsal, elaboration, and organisation strategies which students use to maintain their interest in a particular learning task and also making the task simpler for them. Again, implied in scaffolding is the resource management learning strategy where students resort, as a learning strategy, to receiving support from others in the school learning environment in controlling their level of frustration. Again, this theory has implications for teaching and learning (Dixon-Krauss, 1996). From the Vygotskian perspective, the teacher's role is seen as one of mediating the child's learning activity as they share knowledge through social interaction (Dixon-Krauss, 1996, p. 18). Scaffolding is a key feature of effective teaching and can include modeling a skill, providing hints or cues, and adapting material or activity (Copple & Bredekamp, 2009). This stance of the theory is congruent with the teaching strategies which have been suggested in the teaching syllabus for Economics in Ghana.

A contemporary application of Vygotsky's theory is "reciprocal teaching" used to improve students' ability to learn from text. In this method, teacher and students collaborate in learning by practicing four key skills: summarizing, questioning, clarifying, and predicting (Dixon-Krauss, 1996). The teacher's role in the process is reduced over time. Vygotsky's theory also feeds into current interest in collaborative learning, suggesting that group members should have different levels of ability so more advanced peers can help less advanced members operate within their zone of proximal development. This application has relevance to teaching methods in the classroom.

Lastly, his theory gave prominence to the role language plays in cognitive development of the learner. According to Piaget, language depends on thought for its development (i.e. thought comes before language). Vygotsky, argues in the theory that cognitive development results from an internalisation of language. By inference, students with well-developed linguistic competences are more likely to use cognitive learning strategies (Dixon-Krauss, 1996). He eventually suggested that adults are an important source of cognitive development. The reason he gave was that adults transmit their culture's tools of intellectual adaptation that students or children internalize. This suggestion provides bases for the crucial role of the teacher in the cognitive development of students which is really not the area of concentration of this study.

Jerome Bruner

Bruner's (1987, 1990) constructivist theory incorporates many of the ideas offered in previous theories. First, he includes the Piagetian notion that cognitive

development occurs in progressive stages and that each stage is incorporated and built upon by succeeding stages. Bruner also agrees with Piaget in arguing that categorisation and representation are keys to an individual's cognitive development. His ideas can also be linked to those who propose information processing models in that he suggested that development occurs as mental structures that become more elaborate and sophisticated through interaction and experience that is, "learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so" (Kearsley, 2001a, p.1). In addition, his work is considered interactional in a manner similar to that proposed by Dewey and Vygotsky. He was not only concerned with the sequence of representation (the stages), but was equally concerned with the role of culture on cognitive development.

There is one fundamental difference between Bruner's (1987) theory and Piaget's (2001) theories (Lutz & Huitt, 2004). First, stage theories maintain that cognitive readiness is key to learning and development. According to these, age or biological state dictates what can be learned and how learning can occur. Constructivist theory says that it is the translation of the information that dictates what type of information can be processed and how learning can occur. Piaget stated that an individual cannot process certain types of information at certain ages or stages, but Bruner disagrees, stating that certain aspects of any content or principle can be taught to any child. It will likely be necessary, however, to revisit

these as the individual acquires more knowledge and capacity (Lutz & Huitt, 2004).

Behavioural Learning Theories

Operant Conditioning Theory – B. F. Skinner

Behaviourism was a considerable force in psychology in the first half of last century; thus, many theoretical postures represent this behavioural position and explain the learning process in terms of observable phenomena. Theorists in this category argue that learning does not include thoughts and feelings, not because these internal states do not exist but because such an explanation is in the environment and in the history of every one (Batista & Chadwick, 1993; Garza & Leventhal, 2000).

Behaviourism, developed by Burrhus Frederick Skinner, assumes that the learning process takes place through conditioning (Nath & Sajitha, 2010). Skinner (1938) coined the term operant conditioning to mean roughly changing of behaviour by the use of reinforcement which is given after the desired response. Skinner identified three types of responses or operant that can follow behaviour. He spoke about neutral operants which he explained to mean responses from the environment that neither increase nor decrease the probability of a behaviour being repeated (Ademola, 2001). Then he clarified reinforcers which he referred to as positive or negative responses from the environment that increase the probability of a behaviour being repeated. Reinforcers can be either positive or negative. Lastly, he also shed light on punishers which he explained as responses from the environment that decrease the likelihood of a behaviour being repeated.

Skinner, an advocate for social reform is a figurehead of behaviourism. His philosophy is hinged on the idea that learning is related to change in overt behaviour, and those changes in behaviour (responses) are the result of an individual's response to events (stimuli) that occur in the environment. With this idea, he sought to postulate that any learning ought to be expressive as a result of prior events encountered in the individual's environment. The triadic model by Bandura is implied in this theory in that, the combined environmental factors (teaching method, school type, student status) and personal student factors (sex, motivation to learn, and learning style) generate the necessary stimuli that determine type of learning strategies adopted by students. In this study, the overt behaviour is a manifestation of a particular type of learning strategy adopted as a result of prior stimuli related to the teacher's teaching methods, the school environmental factors and the students' own personal variables.

Skinner extended Watson's stimulus-response theory to operant behaviour and placed a greater emphasis on the impact of the environment on behaviour. Implicit in this study is the argument that school type (whether the school is public or private) and the school status, which defines the student status (whether the student is a boarder/hosteller or day student) provides the environmental framework that impacts the operant behaviour (type of learning strategy) used. His radical behaviourism allows for mental stimuli and mental responses which he described as private.

One of the classroom implications of Skinner's theory is that behaviour can be modified and learning can be enabled through internal reward or one that

can arise through external reward (Ademola, 2001). The internal reward that motivates a particular behaviour put up, in this study, is the student's own intrinsic motivation to learning Economics. This variable can affect the use of a particular learning strategy. It has been observed by Zimmerman (2008) and Winne (2009) that self-motivated students often employ self-regulated meta-cognitive learning strategies which enhance extremely their learning. In contrast, unmotivated or externally motivated students may express desirable behaviours only extent to which the external rewards stimulate them. Such students have been found to use cognitive and sometimes resource management learning strategies.

Another classroom benefit is Skinner's stance on ensuring effective instruction (Ademola, 2001). He said one of the most effective kinds of instruction may be done through the use of teaching machines. This earned him the accolade, "father of the teaching machine." This is the type of teaching where machine series are arranged in sequences of increasing complexity. When students respond correctly, the machine has a way of rewarding the students (Fulton & Woollard, 2010). This implies that in teaching, teachers must use methods that systematically reward good behaviours and also punish behaviours that are inimical to learning.

Despite his contributions, his work has also been heavily criticised by many. For instance, the validity of his experimental procedures has been challenged (Ademola, 2001). Others have also questioned his assumption about

human nature. Further still, some claim that his method may cause students to become dependent on extrinsic rather than intrinsic rewards.

Skinner had a major influence in behaviourism but he was not the only theorist. Others include Thorndike, Pavlov, among others who all made significant contributions in behaviorism. Therefore, behaviourist theory of learning cannot be fully understood without understanding connectionism and the related laws of effect, exercise, and readiness put forward by Thorndike and classical conditioning by Pavlov which complement Skinner's operant conditioning. For that reason, it becomes crucial to review the connectionism theory by Thorndike and the Pavlovian theory of classical conditioning with their associated educational implications.

Thorndike's Connectionism Learning Theory

This learning theory of Thorndike represents the original stimulus response (S-R) framework of behavioural psychology (Thorndike, 1898). It postulates that learning is the result of association forming between stimuli and responses (S-R). Such associations or "habits" become strengthened or weakened by the nature and frequency of the S-R pairings (Wig, Buckner & Schacter, 2009). The paradigm for S-R theory was trial and error learning in which certain responses come to dominate others due to rewards. The hallmark of connectionism, like all behavioural theories was that learning could be adequately explained without referring to any unobservable internal states (Davison & Nevin, 1999). Three laws of learning are inherent in the connectionism theory: law of readiness; law of exercise; and the law of effect.

Law of Readiness

First primary law of learning, according to Thorndike, is the ‘Law of Readiness’ or the ‘Law of Action Tendency’, which means that learning takes place when an action tendency is aroused through preparatory adjustment, set or attitude. Readiness means a preparation of action. If one is not prepared to learn, learning cannot be automatically instilled in him or her. For example, unless the typist, in order to learn typing prepares himself or herself to start, he or she would not make much progress in a lethargic and unprepared manner.

Law of Exercise

The law of exercise had two parts: (a) the law of use and (b) the law of disuse. This law stated that connections grow stronger when used - where strength is defined as “vigor and duration as well as the frequency of its making” - and grow weaker when not used. Many examples of law of exercise are found in case of human learning. Learning to drive a motor-car, typewriting, singing or memorizing a poem or a mathematical table, and music etc. need exercise and repetition of various movements and actions many times. This relates to rehearsal strategies which fall under meta-cognitive learning strategies.

Law of Effect

With the law of effect, responses which occur just prior to a satisfying state of affairs are more likely to be repeated, and responses just prior to an annoying state of affairs are more likely not to be repeated. The second contribution was his rejection of the notion that man/woman is simply another

animal that can reason. He believed intelligence should be defined solely in terms of greater or lesser ability to form connections.

Additional Laws in the Theory

The first is the law of set or attitude which he explained as that type of learning guided by a total set or attitude of the organism, which determines not only what the person will do but what will satisfy or annoy him (Wig, Buckner & Schacter, 2009). For instance, unless the cricketer sets himself or herself to make a century, he or she will not be able to score more runs. A student, similarly, unless he or she sets to get first position and has the attitude of being at the top, would waste away the time and would not learn much. Hence, learning is affected more in the individual if he or she is set to learn more or to excel.

The second law inherent in the theory is the law of partial activity or prepotency of elements. According to this law, the learner reacts selectively to the important or essential in the situation and neglects the other features or elements which may be irrelevant or non-essential. The ability to deal with the essential or the relevant part of the situation makes analytical and insightful learning possible.

Third law in the theory is the response by analogy. According to this law, the individual makes use of old experiences or acquisitions while learning a new situation (Wig, Buckner & Schacter, 2009).

There is a tendency to utilize common elements in the new situation as existed in a similar past situation. Learning to drive a car, for instance, is facilitated by the earlier acquired skill of driving a motor cycle or even riding a

bicycle because the perspective or maintaining a balance and controlling the handle helps in steering the car.

This theory has implications for teaching and student learning. According to this theory, the teacher should adopt a teaching method that moves from simple to complex concepts. This approach benefits weaker and backward students. The theory further seeks to encourage teachers to lay more emphasis on motivating students to develop interest in what they learn and also give students exercises to practise after classes since this can help them ‘stamp in’ what they have been taught. Thus, before teaching, teachers should explore means to motivate students properly. With the trial and error concept, practice helps in reducing the errors committed by a student in learning any concept. With the help of this theory, the wrong habits of students can be modified and the good habits strengthened. Teachers can also improve their teaching methods by making use of this theory. They must observe the effects of their teaching methods on students and accordingly make necessary changes in them, if required to improve student learning. According to Schunk (2011), behavioural theories believe that learning is a change in the rate, frequency of apparition or form of behaviour (response) as a function of environmental changes.

Social Cognitive View of Self-Regulation Learning

The main theory underpinning this study is the social cognitive theory (SCT) aligned to Albert Bandura’s triadic representation (i.e., the reciprocal interactions between behaviours, environmental and personal variables. The rationale for the choice of this theory is that the theory helps to explain better the behaviours (in

this study the strategies) that students adopt in learning. The environmental variables relate to the school demographics which the study purports to discover their influence on the learning strategies and the students' personal factor which relates to their sex. The study hypothesises that students' strategies for learning Economics are influenced by the school environment (school type, school option category and, status).

In the same vein, gender plays a role in students' selection of learning strategies. Bandura contends that in this theory, the role of cognition and the role of the contextual influence on particular preferred learning strategy are principally overlooked (Bandura, 1977, as cited in Redmond, 2010). According to Bandura (1997), individuals function as contributors to their own behaviour and development within a network of reciprocally interacting influences and those individuals who purposefully influence their functioning and life situations could be described as agents of change. In SCT, human behaviour is perceived to be influenced to a large extent by continual exercise of self-influence (Bandura, 1991). Social cognitive theorists believe that human learning occurs enactively (i.e., people learning by doing and through selectivity-actions that bring rewards are retained and those that lead to failures are rejected). Even though the process of enactive behaviour is similar to that of Skinner's concept of shaping, social cognitive theorists contend that "behavioural consequences serve as sources of information and motivation rather than as response strengtheners" (Schunk, 2009, p. 128). Figure 1 provides a schematisation of the theory as it applies to the study.

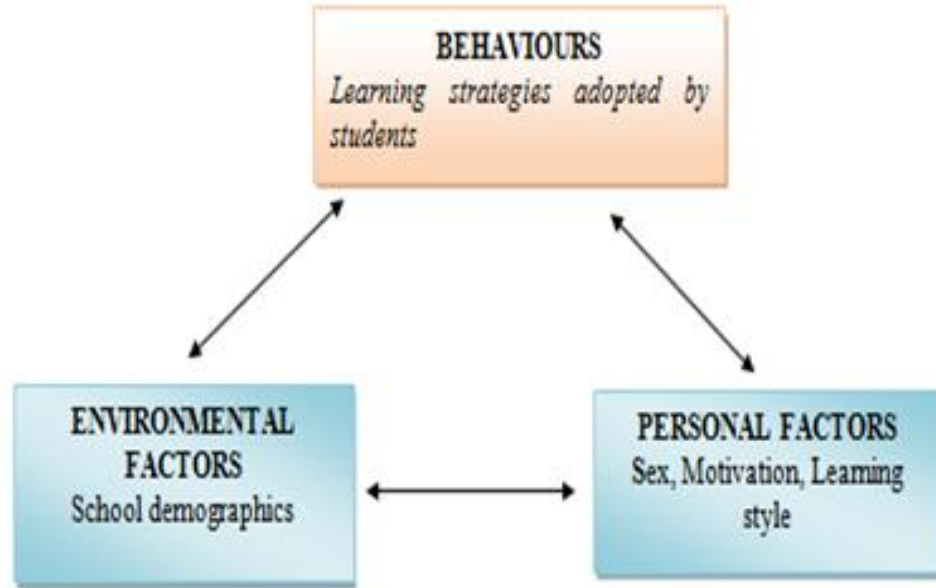


Figure 1. Triadic model of the study adapted from Albert Bandura (1997).

Under this theory, learning is seen to occur vicariously in the absence of overt behaviour and by observing others. Social cognitive theorists therefore hold the view that exemplifications of required behaviour through persistence and effort regulation with clear information can heighten students' perceptions of their own performance abilities (Schunk, 2009). Generally, social cognitive theory is viewed as a representation of the fact that individuals proactively seek and interpret information in as much as they react to environmental influences (Nevid, 2009; Schunk, 2009). Albeit, the influencing factors are considered to have varied strength and often do not occur simultaneously. Social cognitive theory conceptualises self-regulated learning (SRL) as having three sub components which are interrelated (Redmond, 2010; Schunk, 2009; Bandura, 1991) and each have effect on students' motivational orientation and goal attainment (Redmond, 2010; Zimmerman & Schunk, 2009). These sub processes are: Self-observation,

Self-evaluation and self-reaction (Redmond, 2010; Schunk & Zimmerman, 2011; Zimmerman, 2008).

Models in Meta-cognitive Self-Regulated Learning

Self-regulation is seen as a composite concept; hence the models under consideration in this research will focus on the phase models. The theoretical model most appropriate for grounding this research combines a student's motivational orientation with strategy use framework. The self-regulation model of learning encompasses a key set of capabilities that students use to acquire academic skills, such as setting goals, selecting, planning and using strategies, and self-monitoring one's effectiveness in the learning context (Zimmerman, 2008), so that his/her learning is shaped by a framework of motivation and strategy used in a context. Research into stimulus response learning (SRL) has suggested a number of theoretical models in an attempt to identify the various variables that form the stimulus response learning as a composite construct. Self-regulated learning (SRL) theories try to model how each of these cognitive, motivational, behavioural and contextual factors influences the learning process (Winne, 2009; Zimmerman, 2000; Pintrich, 2000, 2003; Winne & Hadwin, 1998).

Even though the four factors (cognitive, motivational, behavioural, and contextual) serve as the basis for most SRL theories, review of literature indicates that some approaches have shown major dominance when it comes to studies involving students' academic performance. Among the models that have relevance for this study are Zimmerman's (1989) social cognitive view of academic self-regulation; Winne and Hadwin's (1998) four-phase model of self-

regulation of learning; and Pintrich's (2000) general framework for self-regulated learning.

Zimmerman's Cyclical Model of Self-Regulated Learning

The theoretical model of self-regulation by Zimmerman examined in this research is rooted in Bandura's social cognitive theory which has been described earlier. Consequently, the model takes into consideration how an individual's perceptions, environment, and behaviour interact to influence the learning process. Zimmerman (2011) contends that self-regulated learning is somewhat distinct from other theoretical models of learning because it describes learning activities from the student's perspective and draws heavily from an individual's self-image as a learner. Hence, his cyclical model of self-regulated learning provides a useful way of exploring issues such as how self-efficacy shapes learning strategy use, and how learners' self-evaluations influence their subsequent motivation and goal-setting. Zimmerman's (1989) cyclical model involves three sequential phases, namely, the forethought (pre-action) phase, performance control (action) phase and the self-reflection (post-action) phase.

Winne and Hadwin's (1998) Model of Self-Regulated Learning (SRL)

Winne and Hadwin's (1998) views on self-regulated learning (SRL) are based on Information Processing Theory (IPT). They assert that students' self-regulation learning occurs in three essential phases with one optional phase. Thus, in all, there are four phases (Moos & Ringdal, 2012; Winne, 2009):

1. Task definition;
2. Goals setting and planning how to achieve them;

3. Tactics and strategies enactment; and
4. Meta-cognitive adaptation.

According to Winne (2009), in each of the phases, information processes shape the products that come out of it as conditions, products, standards or evaluations (p. 163). Conditions are the resources accessible to a learner while working on a task and the constraints, be it the task itself or one that emanates from the environment, which may affect standards and the processing of the information a learner encounters (Moos & Ringdal, 2012; Winne, 2009; Zimmerman, 2008; Greene & Azevedo, 2007; Pintrich, 2003). Winne (2009) posits that of all the resources (i.e., both cognitive and contextual), prior knowledge (which includes values, beliefs, dispositions, and styles; motivation; field knowledge; knowledge of the current task; and knowledge of study tactics and strategies) is the most significant in information processing during task performance.

He further asserts that the courses of action that are involved in students' information processing during learning are believed to include Searching, Monitoring, Assembling, Rehearsing, and Translating (SMART) or operations, which aid in the creation of a new information called product (Winne, 2009; p. 163). Under Winne and Hadwin's model of SRL, operations, be they routinised or acquired are cognitive and the products that result out of them can be tangible or intangible. For example, during a task performance, a learner can think of the strategies and resources he/she would need for a successful completion of the task and then start work on the task, such as writing introductory paragraphs. The

learner then judges or evaluates through monitoring, these products against a quality (standard), several of which form the goal of the learner.

The information processing model essentially is concerned with how humans learn. This is because how one learns, acquires new information, and retains previous information, guides selection of long-term learning objectives and methods of effective instruction. To this end, cognition as a psychological area of study goes far beyond simply the taking in and retrieval of information. It is a broad field dedicated to the study of the mind holistically. Some researchers in cognition, define it as the study of how people encode, structure, store, retrieve, use or otherwise learn knowledge.

In effect, all these processes: conditions, operations, products, evaluations and standards come together to form what Winne and Hadwin term as COPES - a *script* that students work with in task completion (Winne, 2009). In the operationalisation of COPES during the four stages as outlined in the model, the student creates a situated need and forms perceptions based on the attributes of the task given. This task definition and formation of perceptions about the task, as well as the estimation of available resources in the first phase is usually influenced by two key conditions - task and cognitive conditions (Winne, 2009). For example, learners ask questions such as “What do I know about this task?” “What are the available resources to help me solve this problem?” And once information about task and cognitive conditions are activated in the working memory, the learner integrates them build an idiosyncratic definition of the task at hand (Winne, 2009, p. 165).

The student then forms a goal(s) and gathers the needed strategies to meet the goals in the second phase. In the third phase, the student begins to perform the strategies identified in Phase 2 in working on the task at hand. Phase 4, which according to Winne is voluntary, involves the student reforming goals and transforming tactics in the course of tackling the task. Throughout the phases, the student then constantly monitors task performance meta-cognitively in relation to the set goals to determine if phase standards have been met or if there is the need to do further work (Moos & Ringdal, 2012; Winne, 2009). Hence, the model is a “recursive, weakly sequenced system” (Winne & Hadwin, 1998, p. 281) in which the monitoring of products and standards within one phase can lead to adjustments of products from previous phases. The addition of monitoring and control in the cognitive construction allows these processes to impact each phase of SRL (Greene & Azevedo, 2007).

The characteristic features of a self-regulated learner in relation to this model are summed by Winne (2009) as:

When they begin to study, self-regulated learners set goals for extending knowledge and sustaining motivation. They are aware of what they know, what they believe, and what the differences between these kinds of information imply for approaching tasks. They have a grasp of their motivation, are aware of their affect, and plan how to manage the interplay between these as they engage with the task. They also deliberate about small-grain tactics and overall strategies, selecting some instead of others

based on predictions about how each is able to support progress toward chosen goals (p. 173).

CONCEPTUAL FRAMEWORK

Concept and Typology of Learning Strategies

According to Rubin (1987, p. 23), there are three kinds of learner strategies, namely, learning strategies, communication strategies, and social strategies. It is noted that she used 'learner' in the superordinate so as to differentiate it from the subordinate. Among the three, the first two are further named as direct strategies, in that they make direct and primary contribution to language learning, by means of obtaining, storing, retrieving and using language, as opposed to the indirect way in which social strategies contribute to language learning. As the first and major category, learning strategies may further be broken into cognitive and meta-cognitive strategies. Chamot and O'Malley (1987) note that the former normally entail direct manipulation or organisation of new information, some typical examples of which are repetition, resourcing, translation, grouping, note-taking, and deducing. On the other hand, the latter often includes planning, monitoring, and evaluating learning activities. The second category in Rubin's system of typology, communication strategies are often employed when learners participate in a conversation, facilitating the on-going of conversation and allowing learners more chances of exposure to the second language (L2), such as clarification strategy and avoidance strategy.

According to Carless (2008), the social strategies, co-appearing with affective strategies in lots of strategy research reports, are applied with a lower

frequency in classroom activities. Although the primary and significant aspects of learner strategies have been covered in Rubin's categorisation, some specific strategies owing their importance in L2 learning deserve particular attention. Take mnemonic techniques for instance, they are applied and relied on to some degree in lots of language learning areas. Deployed with other aides in a learning setting, like visual aids and physical responses, Newmann and Thompson (1987) noted that memorising strategies could be particularly effective to some learners. There are other perspectives from which learning strategies are examined, too. Oxford (1990) developed a six-item group of L2 learning behaviours, in which not only affective and social strategy are treated and valued respectively, but cognitive strategy is dealt with in three smaller parts, which are memory-related, general cognitive and compensatory strategy.

There is not sufficient evidence to say this way is better than other systematising approach, or vice versa, but it focuses on seeing learners as persons able to access and utilise comprehensive resources, rather than information processors. At the same time, it reminds teachers of some potentially enhancing aspects of their learners. McKeachie, Pintrich, Lin & Smith (1986) on the other hand, categorised learning strategies into two: cognitive/meta-cognitive and resource management strategies. Their learning strategies are discussed in this study.

McKeachie *et al.*'s (1986) Learning Strategies

According to Pintrich (1988), a variety of taxonomies are available for describing and classifying students' learning strategies including those developed

by Dansereau (1985), Pressley (1986), Weinstein and Mayer (1986), and McKeachie, Pintrich, Lin, and Smith (1986). Dansereau (1985) developed a theoretical framework for learning strategies that emphasised primary support strategies. The primary strategies focused on learning strategies needed for text-based materials and support strategies needed for developing a mental environment. Although Dansereau provided a clear framework, the primary strategies were isolated to text-based applications. Pressley (1986) examined goal specific, monitoring, and higher order learning strategies. While Pressley investigated the use of specific strategies, he did not provide a clear, conceptual framework to apply these learning strategies to other learning environments. The taxonomy developed by Weinstein and Mayer (1986) outlined learning strategies from a cognitive perspective. This cognitive approach identified specific strategies and methods available to learners to assist them with selection, acquisition, construction, and integration of knowledge (Weinstein & Mayer, 1986).

McKeachie, Pintrich, Lin, and Smith (1986) incorporated elements of several learning models, including the cognitive approach established by Weinstein and Mayer (1986), into a taxonomy of learning strategies. Their theory encompasses the cognitive, meta-cognitive, and resource management aspects of learning. Figure 2 illustrates the taxonomy proposed by McKeachie *et al.* (1986).

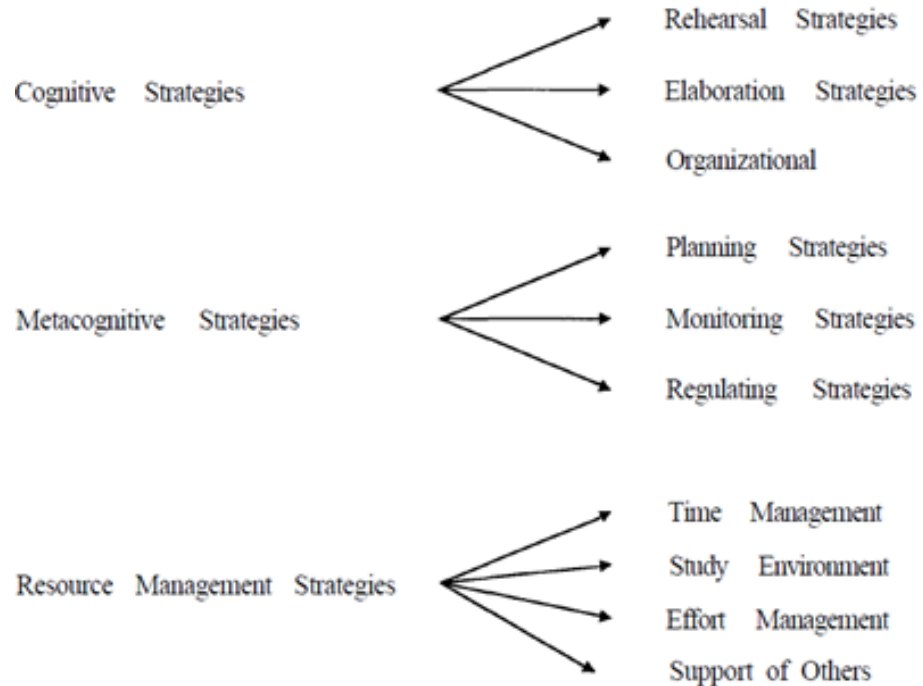


Figure 2. Taxonomy of learning strategies by McKeachie *et al.* (1986) as cited in Filcher and Miller (2000, p. 62).

According to McKeachie *et al.* (1986) and Weinstein and Mayer (1986), cognitive strategies are important for understanding how information is processed and encoded in a learning environment. Meta-cognitive strategies allow a student to monitor his/her performance through planning, monitoring, and self-regulation (McKeachie *et al.*, 1986). Resource management strategies assist the student in managing the learning environment and available resources (McKeachie *et al.*, 1986). McKeachie *et al.*'s (1986) taxonomy is a clear, concise, and comprehensive model that provides the theoretical framework for this study and identifies general learning strategies and specific learning tactics that may be examined in a distance education environment.

Model Specification

Following the thorough review of literature inspired also by Tamada's (1996) empirical propositions on the determinants of learning strategy use, I derived a central mathematical model containing the variables in the central hypothesis. This model has been specified in equation (A) as:

$$LS_i = \beta_0 + \beta_1 X_i + \varepsilon_i \dots\dots\dots (A)$$

Where:

For an Economics student i , LS_i is the learning strategy, measured in terms of learning strategy adjusted for error.

X_i is the determinant of learning strategy of an Economics student i , measured as their out-of-class way of learning.

ε_i is the error term, measured as other factors that determine learning strategy use. Mathematically, β_0 and β_1 are the coefficients of elasticity for determinants.

For this study, determinants (X_i) is assumed to be a function of teaching method ($Tmethod_i$), motivation to study Economics (Mot_i), learning style ($Lstyle_i$), student sex ($Studentsex_i$), school type ($Schtype_i$), student status ($Studentstatus_i$) and other exogenous factors (ε_i). Mathematically, this is formulated in equation 2 below as;

$$X_i = f(Tmethod_i, Mot_i, Lstyle_i, Studentsex_i, Schtype_i, Studentstatus_i) = Tmethod_i + Mot_i + Lstyle_i + Studentsex_i + Schtype_i + Studentstatus_i \dots\dots\dots (B)$$

Where:

T_{method_i} = teaching method experienced by an Economics student i , measured as dummy variable with a value of 1 for teacher-centred method and 0 for student-centred method.

Mot_i = motivation to study Economics by an Economics student i , measured as dummy variable with a value of 1 for extrinsic and 0 for intrinsic motivation.

L_{style_i} = learning styles of an Economics student i , measured as dummy variable with a value of 0 for visual learner, 1 for auditory, and 2 for kinaesthetic learner.

$Studentsex_i$ = sex of an Economics student i , measured as dummy variable with a value of 1 for female and 0 for male.

$Schtype_i$ = school type (where an Economics student finds themselves) i , measured as dummy variable with a value of 1 for private and 0 for public school.

$Studentstatus_i$ = student status of an Economics student i , measured as dummy variable with a value of 1 for day students and 0 for boarder/hosteller.

Substituting equation (B) into (A) helps to obtain (C)

$$LS_i = \beta_0 + \beta_1 Teachme_i + \beta_2 Mot_i + \beta_3 Lstyle_i + \beta_4 Stdsex_i + \beta_5 schtype_i + \beta_6 Studentstatus_i + \varepsilon_i \dots \dots \dots (C)$$

The LS_i which represents the learning strategy measures was normally distributed and therefore there was no need of taking the logarithm of LS in equation (C) to normalise the residuals.

The model hypothesized that the exogenous variables influence the choice of the endogenous variables (learning strategies) - $L_S = f(Tm_i, M_{ti}, L_{ti}, S_{xi}, S_{ti}, S_{fi})$. The model theorises that the learning strategy adopted by students is influenced by their teachers' teaching methods, their motivation to study Economics, the learning styles they adopt in learning, their sex, the school type, and the school status. The linear function describes the relationship between the explanatory and criterion variables in the form $y = c + mx$ where, m is the slope or the gradient of the line telling us the rate of change of the endogenous variable y per unit change of the exogenous variable x . The constant c gives the value of y if x is assumed to be zero (y – intercept).

Assumptions of the model

- a. Teachers adopt certain teaching methods in the classroom that set the stage for learning and use of learning strategies.
- b. Students learn Economics outside the classroom by utilising cognitive, meta-cognitive and resource management LS.
- c. Students are rational and therefore desire to maximise learning by making the best use of the available resources at their disposal to achieve their goals.
- d. Students' motivation, learning style and sex are student factors that influence their choice of learning strategies.
- e. School type and school-status are learning environmental factors that show the school quality and stock of learning facilities in the various schools which in turn also influence students' LS choice.

Implications

Inferring from assumptions c, d, and e, students (boys/girls and boarders/hostellers/day) in well-endowed schools are more likely to use effective LS. Figure 3 shows a hypothesised conceptual framework based on the theoretical model that informed the study. This framework is the end product of the different elements of the chosen models which have been reviewed.

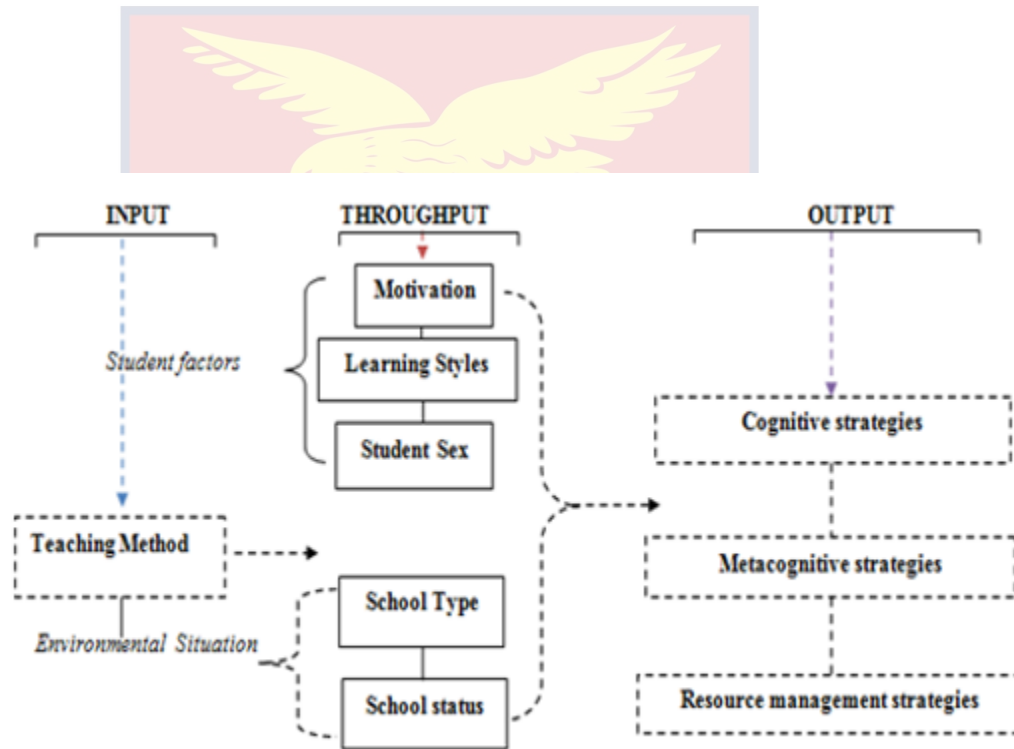


Figure 3. A hypothesized conceptual framework of the study. **Source: Bandura (1986) (Modified).**

The conceptual framework expands the scope of the situational (school environmental) factors to include type of school and school status to describe scope of the learning situation. First, the input marks teachers' method of teaching which result in after-class learning strategies. The general methods of teaching Economics act as stimuli which provokes certain kinds of learning responses.

Knowledge imparted to students are received via the various teaching methods teachers adopt.

Second, the throughput in the model encapsulates student factors such as sex, motivation to study Economics, student learning styles, and school (environmental) variables such as school type and school status. The boys and girls use different learning styles to study Economics based also on their motivation. In other words, the diverse learning styles employed by students which are concerned with how they prefer to learn and not what they learn, influence the specific actions, behaviours, steps, or techniques they adopt to succeed in learn (i.e. learning strategy). How well students are able to employ these techniques reflect their motivation to learn Economics. The sex of the individual also influences how they prefer to learn and techniques to succeed in their learning. In this study therefore, the exogenous variables (EVs) include sex, motivation, school-type, school status, and learning style.

Third stage of the framework marks the output where students use particular specific actions, behaviours, steps, or techniques known as learning strategies in order to succeed in learning. There are three categories of learning strategies: cognitive; meta-cognitive; and resource management strategies (RMS). Students at any point use these learning strategies. In their use of cognitive strategies, they rehearse, elaborate with a view to internalizing connection between current and prior knowledge. In the process, they paraphrase, summarise, create analogies, generate note-taking, answer questions on their own, and they also organise learning. In the use of organisational strategies, students select main

ideas through outlining, networking, and diagramming information received in class. Organisation helps the student to select appropriate information from a wide array of concepts learnt and also construct connections among information to be learnt. From the literature (cf. McKeachie *et al.*, 1986; Weinstein & Mayer, 1986), one sees that cognitive strategies are important for students to understand how information is processed and encoded into the long-term memory in a learning environment. The conceptual framework theorises that teaching method, sex, students' learning styles, their motivation to learn Economics, school type, student status are factors that predispose students to this type of learning strategy.

Meta-cognitive strategies allow a student to monitor his or her performance through planning, monitoring, and self-regulation (McKeachie *et al.*, 1986). In planning students set learning goals, read regularly the materials they encounter in the classroom and in monitoring, they check themselves for comprehension of knowledge through self-regulation. In the use of this learning strategy, students do engage in self-test, self-question. This strategy has been found to contribute to improved acquisition, generalisation, and transfer of knowledge (cf. McCombs, 1988). In self-regulation, students adjust their reading rate, re-read, review their reading, and use test-taking procedures. Again, the conceptual framework hypothesises that teaching method, sex, students' learning styles, their motivation to learn Economics, school type, student status predispose students to this type of learning strategy.

Resource management strategies (RMS) involve time management, study environment management, effort management support strategies. Generally, RMS

assist students in managing the learning environment and available resources (McKeachie *et al.*, 1986). In time management, students try to regulate their time and study environment in order to optimize learning. In time management, they schedule, plan, and manage their study time by setting aside study blocks and committing to them and ensuring that the study time is effectively used. In use of the study environment, the students ensure that their study setting is organised and free from noise and other forms of distraction and also making use of available facilities such as libraries, laboratories among others. In effort management, students use devices such as attribution to effort, mood, self-talk, persistence, and self-reinforcement (cf. McKeachie, *et al.*, 1986) this strategy does not simply reflect students' desire to finish a task but a self-management strategy that incorporates several other resource management strategies (time and study environment management).

In the use of support strategies, students rely on other human resource (colleagues, peers, teachers among others) in the learning environment to make progress in their learning. They often do this by collaborating and dialoguing with peers at individual or group bases to clarify doubts regarding learnt information. Pursuant to this learning strategy, the current conceptual framework seeks to test and find out if teaching method, sex, students' learning styles, motivation to learn Economics, school type, and student status predispose students to this learning strategy. The endogenous variables or dependent variables (DVs) take into account the learning strategies suggested by McKeachie *et al.* (1986). The

independent variables (IVs) are deemed to influence students use of the dependent variables (DVs).

EMPIRICAL STUDIES

Most learning tasks require the use of several different types of learning strategies (Purdie, Hattie & Douglas, 1996). The dichotomizations between favourable and unfavourable strategies do not necessarily explain the full nature of strategic activity. For example, rote learning, which is generally seen as an unfavourable strategy, can, in certain conditions, lead to understanding; or some problem-solving tasks can involve phases in which surface level processing is needed in order to generate an adequate solution (Solovaara, 2005). There are a number of studies which have been conducted with varied results on the teaching and learning of Economics (Caropreso & Haggerty, 2000; Nazeer, 2006; Watts & Becker, 2010). This section therefore examines the current literature on cognitive, meta-cognitive, resource management learning strategies.

Cognitive Learning Strategies

The cognitive component of McKeachie's taxonomy focuses on the methods by which students actively process information and structure same information into memory (Weinstein & Mayer, 1986). This active constructive process allows the learner to interpret information and connect it to existing cognitive structures. Specific cognitive strategies, in the model proposed by McKeachie *et al.* (1986), include rehearsal, elaboration, and organisation.

Rehearsal Strategies

According to Olgren, (1998) rehearsal strategies are employed by learners to remember material using repetition. Specific rehearsal tactics include “repeating the material aloud, copying the material, taking selective verbatim notes and underlining the most important parts of the material” (Weinstein & Mayer, 1986, p. 3 18). Basic rehearsal strategies involve reciting or naming items from a list to be learned. These strategies are best used for simple tasks and activation of information in working memory rather than acquisition of new information in long-term memory. These strategies are assumed to influence the attention and encoding processes, but they “do not appear to help students construct internal connections among the information or integrate the information with prior knowledge” (Pintrich *et al.*, 1991, p. 19).

In a study conducted on adult learners in distance education in the field of Agriculture, Bernt and Bugbee (1990) examined specific tactics such as underlining/highlighting, memorising material, and mentally rehearsing important ideas. They found no significant differences between students at different achievement levels and their reported use of these specific tactics. In addition, the high achievement students reported the lowest percentage of memorising material that was not understood (Bernt & Bugbee, 1990).

Elaboration Strategies

Elaboration is the process by which the learner builds an internal connection between what is being learned and previous knowledge. Specific tactics include paraphrasing, summarising, creating analogies, generative note-

taking, and question answering (McKeachie *et al.*, 1986; Weinstein & Mayer, 1986). For Pintrich *et al.* (1991, p. 20), “elaboration strategies help students store information into long-term memory by building internal connections between items to be learned”.

Zimmerman and Pons (1986) in a study to assess students’ use self-regulated learning via interviews in an unspecified learning field found that self-regulated learning measures proved to be the best predictor of students’ standardized achievement test scores. Thus, the extra help from social and non-social sources, regulating their study efforts, using elaboration strategies ensured maximum student preparedness for their upcoming exams. Miller (1997b) in a study in Agriculture found that 87% of the students in distance education courses utilised elaborative strategy by taking notes while viewing a videotape. Furthermore, Miller (1997a) found that students who took notes were more likely to earn an “A” in their Agric course. Bernt and Bugbee (1990) found that elaboration strategies were used by 50-75% of the adult learners in distance education at different achievement levels; however, no significant differences were found between failing students, low passers, and high passers on specific tactics such as trying to see how material applied to work situations, relating new material to familiar ideas, and translating material into their own words.

Similarly, Wood, Motz and Willoughby (1998) in a psychological study on students’ retrospective memories of strategy development found that students selectively used appropriate strategies that were highly related to academic achievement. They reported for example that high-achieving students used more

elaborative and organisational strategies than low-achieving students (Gaskins & Elliot, 1991; Wood *et al.*, 1998). Re-writing their notes, selecting main ideas, and outlining the text allowed for a deeper processing of the course material compared to just using rehearsal strategies for basic memory tasks (Wood *et al.*, 1998).

Organisation Strategies

Organisation is the process by which the learner organises and builds connections with the information received in the learning environment (Olgren, 1998). Specific tactics associated with organisation include the process of selecting the main idea through outlining, networking, and diagramming the information (McKeachie *et al.*, 1986; Weinstein & Mayer, 1986). For Pintrich *et al.* (1991, p. 21), organisation strategies help the learner to select appropriate information and also to construct connections among the information to be learned. Examples of organising strategies are clustering, outlining, and selecting the main idea in reading passages. Organising is an active, effortful endeavour, and results in the learner being closely involved in the task. This should result in better performance.

In a research study conducted by Miller (1997b), 21.2% of distance education students employed organisational strategies by outlining class notes. However, Bernt and Bugbee (1990) in the adult learners in distance education study found no significant differences between failing, low passing, and high passing students who reported very frequently or almost always organising/condensing notes and summarising with charts, diagrams, and outlines. According to Gaskins and Elliot (1991) in a study on ‘implementing cognitive

strategy training across the school' revealed that high-achieving students used more elaborative and organisational strategies than low-achieving students. They also found that re-write notes, select main ideas, and outline the text allowed for a deeper processing of the course material as compared to just using rehearsal strategies for basic memory tasks (Wood *et al.*, 1998). Pintrich *et al.* (1991) suggested that use of the cognitive strategies is made possible only through critical thinking. This, they said refers, "to the degree to which students report applying previous knowledge to new situations in order to solve problems, reach decisions, or make critical evaluations with respect to standards of excellence" (p. 22).

Meta-cognitive Learning Strategies

The meta-cognitive component of the theoretical model focuses on the skills students use to plan their strategies for learning, to monitor their present learning, and to estimate their knowledge in a variety of domains (Everson, Tobias, & Laitusis, 1997). The purpose of such strategies is to improve self-regulation by encouraging students to test their understanding (Pace, 1985, as cited in Jonassen, 1985). The meta-cognitive strategies outlined by McKeachie *et al.* (1986) are similar to those of Everson *et al.* (1997) and include planning, monitoring, and self-regulating. Meta-cognition refers to the awareness, knowledge, and control of cognition. There are three general processes that make up meta-cognitive self-regulatory activities: planning, monitoring, and regulating. Regulating refers to the fine-tuning and continuous adjustment of one's cognitive activities. Regulating activities are assumed to improve performance by assisting

learners in checking and correcting their behaviour as they proceed on a task (Pintrich *et al.*, 1991, p. 23). A number of studies have found the use of meta-cognitive learning strategies relative to planning, monitoring, and self-regulation strategies (cf. Weinstein & Mayer, 1986; Britton & Tesser, 1991; Schunk & Ertmer, 2000; Scott, & Levy, 2013). These empirical studies have been discussed in the ensuing sections of the review.

Planning Strategies

Planning includes such tactics as setting goals, reading quickly the material, and generating questions (McKeachie *et al.*, 1986). According to Bernt and Bugbee (1990), 89% of the high passing students in adult learners in a distance education programme reported very frequently or almost always scan through each chapter before reading it. In the same study, Bernt and Bugbee also found that only 35% of the failing students and 29% of the low passing students in the said distance adult education programme reported using planning as a learning tactic. Research by Britton and Tesser, (1991) in psychology on the effects of time-management practices on college grades showed that time planning and management training helped students to better self-regulate their use of study time and, in turn, improved students' grade point average (Britton & Tesser, 1991; Zimmerman, Greenberg & Weinstein, 1994).

Monitoring Strategies

Monitoring is an activity that utilizes self-regulation (McKeachie *et al.*, 1986). Monitoring involves the process by which learners check themselves for comprehension of knowledge or skills (Weinstein & Mayer, 1986). It also entails

processes that include activities such as following one's attention as one reads, and self-testing and questioning: these assist the learner in understanding the material and integrating it with prior knowledge. The process of monitoring has been found to contribute to improved acquisition, generalisation, and transfer of knowledge (as cited in McCombs, 1988). Examples of this self-monitoring include self-testing, attention focus, and employing test-taking tactics (McKeachie *et al.*, 1986).

Throughout the study process, self-regulating students monitor the effectiveness of their learning strategies. Brennan and Schloemer (2003) and Silberman (1996) defined self-monitoring as deliberately paying attention to an aspect of one's behaviour. A research by Schunk and Ertmer (2000) in psychology on '*self-regulation and academic learning: Self-efficacy enhancing interventions*' found that students who monitored their progress towards their goals, especially mastery goals, displayed higher skill acquisition. According to the research this self-monitoring was essential for enhancing learning. Brennan and Schloemer (2003) in a similar study in psychology on '*developing self-monitoring behaviour in students: the effect on student performance and resourcefulness*' found that self-monitoring helped students focus their attention on and discriminated between effective and ineffective performance and reveals inadequate learning strategies. Silberman (1996) in a study found that students who perceived they were progressing academically, in turn, were motivated to achieve even more in psychology education. His study which was on the effects of self-monitoring on students' course performance, use of learning strategies,

attitude, self-judgment ability, and knowledge representation, found that, as a result of monitoring their progress, “students were able to reflect upon the effectiveness and the efficiency of their learning strategies and were in a position to make any necessary changes” (Silberman, 1996, p. 113).

Self-regulated Strategies

Regulating involves such processes as adjusting reading rate, rereading, reviewing, or utilising test-taking tactics. The results of a study conducted by Zimmerman and Pons (1986) on 10th grade students (not in a particular field) indicated that self-regulated learning strategies could be correlated with academic achievement. Miller’s (1997b) study in Agriculture on ‘studying agriculture through videotape: learner strategies and cognitive styles showed that 43.9% of distance education students engaged in self-regulation by viewing videotapes for distance courses more than once. Furthermore, Miller (1997a) in his study on ‘predicting student achievement in agriculture courses delivered by videotape’ was able to use self-regulation strategy to predict student achievement as students who earned an “A” in their Agric course were more likely to view the videotape more than once. In this study however, the researcher was rather interested in finding if the learning environment and personal factors influenced students’ engagement in self-regulated learning strategies.

In fact, burgeoning literature supports the idea that optimal academic performance is strongly open to the level of self-regulation the learner is capable of exercising (Anane, 2014). Self-regulation is a broad concept covering a number of interdependent aspects. It includes both affective capacities – moods, feelings

and emotions – and cognitive capacities – beliefs, perceptions and knowledge. Learning and attainment are best understood when one acknowledges the interactions between affective and cognitive processes. Self-regulation also includes meta-cognitive skills (Pintrich, 2003) – that is, understanding one’s own cognitive skills, including memory, attention and problem solving and which enables learners to make the best use of their knowledge and skills. It is believed that self-regulated learners’ approach educational tasks with confidence, diligence and resourcefulness and are aware when they know a fact or possess a skill and when they do not.

Unlike other passive learners, self-regulated students proactively seek out information when needed, persist at difficult tasks and take necessary actions to master the information they seek (Zimmerman, 2011; Pintrich, 2003); they have the ability to concentrate in the midst of obstructions such as noisy classmates (Duckworth *et al.*, 2009; Zimmerman, 2009). Such students it has been suggested appear to be more keenly aware of the relations that exist between specific behaviours and how to succeed academically and are more likely to employ such behaviours systematically and appropriately (Zimmerman & Moylan, 2009). Self-regulation suggests activities and thinking processes that learners can engage in and which are open to change, rather than fixed characteristics that individuals either possess or lack. For example, self-regulation focuses on “how learners self-generate thoughts, feelings and actions and actively manage such feelings and motivations to learn” (Zimmerman, 2011, p. 5). And self-regulation improves

with practice that learners rely on earlier experiences to build a range of beliefs and strategies that improve learning (Lai, 2011).

Although definitions of self-regulation learning involve specificities with regards to the theoretical position of a researcher, a common conceptualization of the student with such attributes has emerged, according to Zimmerman (2011) as “the degree that they are meta-cognitively, motivationally, and behaviourally active participants in their own learning process” (p. 5). He asserts that self-regulation is not a mental ability or an academic performance skill but rather a “self-directive process through which learners transform their mental abilities into task-related academic skills” (p. 1). In the area of meta-cognitive processes, self-regulated learners plan, set goals, systematise, self-monitor, and self-appraise at different stages during the knowledge acquisition process (Scott & Levy, 2013; Lai, 2011; Zimmerman, 2009; Kitsantas, Winsler, & Huie, 2008; Bembenutty, 2007). These meta-cognitive processes facilitate self-regulated learners to be knowledgeable, self-conscious, and conclusive in their approach to learning (Zimmerman, 2009; Pintrich, 2003).

Self-regulated learning refers to the control of affective, cognitive, and behavioural processes throughout a learning experience in order to reach a desired level of achievement (Sitzmann & Ely, 2011; Leat, Thomas, & Reid, 2012; Zimmerman, 2009; Bembenutty, 2007). Thus, learners display personal initiative, perseverance and adaptive skills in pursuing their important and useful academic goals. When learners are self-regulating, they make use of processes that activate and sustain their thoughts, behaviours, and affect them in order to attain goals

(Chen, 2002; Sitzmann & Ely, 2011). Self-regulated learners are flexible. They do not do these tasks just once. Rather, they go through their learning processes recursively, looking back to make adjustments as and when it is necessary (Zimmerman, 2009; Duckworth *et al.*, 2009; Avalos, 2011).

Researchers who are in support of operant (overt) behaviours prefer metaphors such as self-monitoring, self-instruction, self-reinforcement, self-evaluation and self-correction actions (van Dinther *et al.*, 2011; Duckworth *et al.*, 2009; McCombs, 2009; Zimmerman, 2009). However, social cognitive theorists such as Bandura (1991) has cautioned against seeing the control loop as only seeking to reduce differences between one's goals and overt outcomes (i.e., negative feedback), but we should also be aware that learners report positive feedback effects by raising their goals due to observed outcomes (Zimmerman, 2009).

Empirically, self-regulation of cognition and behaviour, according to Beishuizen and Steffens, (2011) are important aspects of learning and the extent to which students become self-regulators of their own learning influences their academic success (Zimmerman, 2008; Lyn, Cuskelly, O'Callaghan & Grey, 2011; Zimmerman & Schunk, 2011). The skills necessary for self-regulation in academic settings such as schools have been investigated under the rubric of self-regulated learning (SRL) (Pintrich, 2003; Zimmerman, 2008). On the part of McKeachie and Svinicki (2010), effective self-regulated learners actively set goals, decide on appropriate learning strategies, plan their time, organize and prioritize materials and information, shift approaches flexibly, monitor their

learning by seeking feedback on their performance and make appropriate adjustments for future learning activities (Puustinen & Pulkkinen, 2001; Abel, & Meltzer, 2007).

Resource Management Learning Strategies

The resource management strategies concern the quality and quantity of the task involvement (McKeachie *et al.*, 1986). Resource management strategies include study environment management, effort management, and support of others (McKeachie *et al.*, 1986). They involve the process of developing well-defined goals and scheduling the course to obtain the best results. Eastmond (1995) in a study on ‘alone but together: adult distance study through computer conferencing’ among adult distance education students’ programme postulated that scheduling is the process by which the student defined a specific time or created a daily ritual, a weekly pattern, or some other type of arrangement. Eastmond (1995) conducted a qualitative study and determined that most students scheduled distance education courses into their agenda and developed study patterns to help them succeed.

A quantitative study conducted by Miller (1997a) on ‘predicting student achievement in agriculture courses delivered by videotape showed that students who earned an “A” were more likely to view the videotape in a distance education course as they received the tape. In this case, the students scheduled the video tape arrival as the designated time to complete the coursework. Judd (2005) in a similar study titled ‘the relationship between self-regulatory learning strategies and the achievement of high school chemistry students’ reported that in order to

implement their learning strategies, “self-regulated students incorporated several resource management strategies” to succeed (Judd, 2005, p. 26).

Time Management Strategy

Besides self-regulation of cognition, students must be able to manage and regulate their time and their study environments. Time management involves scheduling, planning, and managing one's study time. This includes not only setting aside blocks of time to study, but the effective use of that study time, and setting realistic goals. Time management varies in level, from an evening of studying to weekly and monthly scheduling. Delucchi, Rohwer Jr., and Thomas (1987) in an educational psychology study on ‘study time allocation as a function of grade level and course characteristics’ concluded that students’ “academic success depends not on total time spent studying but on effective time management, along with other self-management skills” (p. 64). Gall, Gall Jacobsen, and Bullock (1990) in an education study on ‘tools for learning: a guide to teaching study skills’ believed that students who were taught self-management skills would be better able to develop and maintain their own motivation. Alderman (1999) in an educational study on ‘motivation for achievement: possibilities for teaching and learning’ felt time helped students handle distractions in and out of school, allowing them to develop their time management skills gradually.

Study Environment Management Strategy

Study environment management refers to the setting where the student does his or her class work. Ideally, the learner's study environment should be

organised, quiet, and relatively free of visual and auditory distractions (Pintrich, 1991, p. 25). Management of the study environment management is the development of a setting that is conducive to learning. According to McKeachie *et al.* (1986), “the nature of the setting is as important as the fact that the student recognises that this particular location is set aside for studying” (p. 29). Students must be able to manage their time and their study environments. A student must designate a defined, quiet, and organised area in which to study. Bernt and Bugbee (1990) in a study on the adult distance education programme said 72-75% of the distance students reported very frequently or almost always studying in a quiet place without interruption. However, no significant differences in achievement were attributed to environment. It is interesting to note that Bernt and Bugbee (1990) determined that high achieving adult distance students did not spend more time studying. A study by Miller (1997a) corroborated the finding by Bernt and Bugbee by concluding that students who received ‘As’ in their Agric courses also did not spend more time studying. Zimmerman and Pons, (1986) in their study on the ‘assessment of student use of self-regulated learning strategies (across curricula) also reported that students who chose a study environment devoid of distractions for purpose of concentration and restructure of the physical environment tended to prepare well for their exam and therefore were likely to succeed. These self-regulated students removed items such as television from their study area and also cleaned and organised their study area before they actually began an academic task (Zimmerman & Pons, 1986).

Simsek, and Balaban (2010) in a study on '*learning strategies of successful and unsuccessful university students*' and found that female university students were more effective in selecting and using appropriate strategies than male students even though the current study was set in a SHS. Again, they found a variety of differences among fields of study where students of fine arts used least learning strategies, while students of sports used them the most. The most preferred group of strategies they found was meta-cognitive learning strategies, whereas the least preferred group was organization strategies. The same pattern was found for the level of success, gender, and field of study (Simsek, & Balaban, 2010). The overall results implied that certain strategies contributed to student performance more than other strategies, and majority of the university students were aware of this situation. due to differences in focus and direction, their conclusions cannot be applied to the Ghanaian context.

In another study titled, *Language learning strategies and beliefs about language learning in high-school students and students attending English institutes*, Saeb and Zamani (2013) found significant differences between the two groups regarding their strategy use and beliefs about language learning. The study revealed that institute students used significantly more memory, cognitive, compensation, metacognitive and social strategies. Also, they held stronger beliefs about the difficulty of language learning and motivation and expectation than their peers in high school. This study did little to investigate the teaching methods, learning styles and the learning strategies that the students preferred relative to their learning

styles. As a result, the conclusions cannot approximate the issues as they pertain to the Ghanaian SHS context.

A study in Liberia, titled, '*Student academic performance: the role of motivation, strategies, and perceived factors hindering Liberian junior and senior high school students learning*', Gbollie and Keamu (2017) found that motivational belief component of extrinsic goal orientation was the most preferred belief and test anxiety was the least possessed belief determining performance of students. They also found rehearsal strategies as the most frequently used learning strategy while help seeking was reported to be the least strategy used. The current study however categorized rehearsal under cognitive while help seeking came under resource management learning strategy. These variables were not tied to students' performance as was the focus of their study. Consequently, the conclusions cannot be applied in the Ghanaian SHS context.

Effort management Strategy

Effort regulation has been defined as students' ability to control their effort and attention in the face of distractions and uninteresting tasks. Effort management is the process by which a learner utilises tactics such as attribution to effort, mood, self-talk, persistence, and self-reinforcement (McKeachie *et al.*, 1986). According to Pintrich, Smith, Garcia, and McKeachie, (1991) effort regulation is not simply a reflection of students' desire to finish a task, but a self-management strategy that consists of incorporating several other resource

management strategies, such as study environment and time management. However, these specific tactics are merely components of a more important tactic. Effort management is self-management, and reflects a commitment to completing one's study goals, even when there are difficulties or distractions. Effort management is important to academic success because it not only signifies goal commitment, but also regulates the continued use of learning strategies (Pintrich *et al.*, 1991, p. 27). Few studies have shown the importance of this variable in an education environment. According to Doljinac (1994) and Lee (1997) in a study on 'using motivational factors and learning strategies to predict academic success', found that effort regulation is a stronger predictor of academic success. On his part, DeGroot (2002) in a psychology study on 'learning through interviewing: student and teachers talk about learning and schooling' revealed that students rating themselves as poor, average, or better in their skill to regulate and persist through an academic task do differ in the grades they receive.

Support Strategy

Support of others is the final strategy associated with this taxonomy of learning strategies. Another aspect of the environment that the student must learn to manage is the support of others. This includes both peers and instructors. Good students know when they don't know something and are able to identify someone to provide them with some assistance. Collaborating with one's peers has been found to have positive effects on achievement. Dialogue with peers can help a learner clarify course material and reach insights one may not have attained on one's own (Pintrich *et al.*, 1991, p. 28).

There is a large body of research that indicates that peer help, peer tutoring, and individual teacher assistance facilitate student achievement (Pintrich *et al.*, 1991, p. 29). Zimmerman and Pons (1986) in their study on ‘assessment of student use of self-regulated learning strategies’ (not in any particular learning field) found that students who purposefully made efforts to use either form of support predicted the students’ achievement track in school. Students are often therefore urged to utilise this support by seeking help from other students and the instructor (McKeachie *et al.*, 1986). In Miller’s (1997b) Agric study on ‘studying agriculture through videotape: learner strategies and cognitive styles’ 6.8% of the Agric students studied with one other person, 4.5% studied with a group of students, and 18.9% of them called on the instructor for assistance (Miller, 1997b). However, his study on ‘predicting student achievement in agriculture courses delivered by videotape’ forecasted that students who called on the instructor for assistance were more likely to earn an “A” in that course. Eastmond (1995) in his adult distance study through computer conferencing on ‘alone but together: adult distance study through computer conferencing confirmed the importance of student-instructor interaction as students contacted their instructors while working through the assignments for the course (Eastmond, 1995).

A study by Kafadar and Tay (2014) on the ‘*Learning strategies and learning styles used by students in social studies*’ found that while most students mostly used affective strategies, they used coding and monitoring strategies at very least. Also, the study revealed that students had mainly decomposition style, followed by arrangement, assimilation and alteration styles. Furthermore, it was

found that students' learning strategies are changing according to learning styles they have. The paper concluded therefore that in all learning strategies, students who have decomposition learning style had significant level of use than those who have assimilation style. Since this study focused on learning styles and learning strategies in Social Studies, the conclusions are limited in its application to the study of economics in Ghana.

Factors Influencing Particular Learning Strategy Use

There are myriad of factors that influence learning strategy choice of students which also affects academic performance (Tamada, 1996). For the purposes of this literature review, they are classified into student personal factors and school or learning environmental factors. The student factors include motivation, learning styles and sex, whereas the school factors include teaching methods, type of school (either private or public), and school-status (whether single sex/co-educational). The study hypothesises that these factors influence students' choice of learning strategies. Some of the factors influencing students' choice of learning strategies to be explored in the study include: teaching methods; Empirical finding on these issues are further discussed in this section of the literature review.

Motivation

An important factor influencing strategy use (Oxford & Nyikos, 1989) is motivation which has been categorised into intrinsic and extrinsic motivation. Intrinsic motivation thus represents engagement in an activity for its own sake. According to de Charms, (1968) and Lepper and Greene, (2015) whose work was

originally published in 1978, extrinsic motivation is “engaging in an activity to obtain an outcome that is separable from the activity itself” (p. 54) whereas extrinsic motivator is outside of, and acts on, the individual.

Deci and Ryan (1985) distinguished between different types of motivation based on the different reasons or goals that give rise to an action. The most basic distinction is between intrinsic motivation, (which refers to doing something because it is inherently interesting or enjoyable), and extrinsic motivation, (which refers to doing something because it leads to a separable outcome). Ryan and Stiller, (1991) noted that intrinsic motivation is an important phenomenon for educators since it is a natural wellspring of learning and achievement that cannot be understated. Because intrinsic motivation results in high-quality learning and creativity, it is especially important to detail the factors and forces that engender versus undermine it.

A number of studies have reported correlation between students’ motivation and learning strategy choice. Findings of Gardner and MacIntyre (1993) seemed congruent with findings from an earlier study conducted by Oxford and Nyikos (1989). In that study, Oxford and Nyikos (1989, p. 294) concluded that, “the degree of expressed motivation to learn the language was the most powerful influence on strategy choice.” Their study reported that their undergraduate foreign language participants, who were substantially motivated, tended to adopt more learning strategies and used them more frequently when compared to those relatively less motivated. The highly motivated learners also demonstrated better results in language learning. Oxford and Shearin (1994) also

declared that it was of utmost importance to understand students' motivation which directly affects the use of learning strategies.

Two years later, Tamada (1996), studying with 24 Japanese third-year college students, found that their use of learning strategies was influenced by factors such as motivation, proficiency, and personality. The results indicated that differences in motivation orientation (instrumental or integrative) significantly influenced the use of language learning strategies. Furthermore, McIntyre and Noels's (1996) study also found that more motivated learners used more strategies and more frequently. Chang and Huang, (1999) also concluded that the number of learning strategies used by students was associated with motivation level. Still on motivation, Hassanpur (1999) in her study of 102 Shiraz University Science students found that integratively-motivated students employed more cognitive strategies than instrumentally-motivated ones. Regarding the four remaining strategies, integratively motivated learners reported the use of these strategies more frequently than those with instrumental motivation, but the difference was not significant at 0.05 level.

MacLeod (2002) found with Japanese students in England that instrumental and integrative motivation had significant effect on choice of learning strategy use. Also, learning strategy use was affected by motivational level instead of a particular motivational orientation (instrumental or integrative). Rahimi, Riazi and Saif (2008) in a study on Persian learners further found that one of the major predictors of the use of learning strategies was student motivation level. In this study however, motivation level will not be explored to

know the extent to which it influences students' use of particular learning strategies. According to Khamkhien (2010), motivation is the most significant factor (followed by experience studying English and gender) affecting choice of learning strategies (LS). In an akin study with Korean immigrant college students in the United States, no correlation was found between motivation and direct learning strategies, but a significant relationship was evidenced between motivation and direct learning strategies (Stoffa, Kush & Heo, 2011).

Clearly, these studies support the claim that learning strategy choice of students is influenced by student motivation to learn a particular subject. However, in this study, student motivation to study Economics would not be taken from the perspectives as has been seen in the literature. For instance, students would be asked to rank whether their decision to study Economics emanates from career or employment considerations, parental advice, personal interest in Economics and or they were forced to choose the subject due to the nature of their programme choice. Reason of personal interest is an intrinsic motivator in line with the thinking by Ryan and Deci (2000). In contrast, career or future job placement motives, parental advice, and choice due to nature and package of programme are considered extrinsic motivators (Ryan & Deci, 2000) in this study.

Learning Styles

Learning styles are different modes in which students want to acquire information or learn. Felder and Solomon (1997) categorised them into visual/verbal, active/reflective, sensing/intuitive, and sequential/global. According

to them, visual learners are the type of students who get information from visual images (pictures, diagrams, graphs, demonstrations) than from verbal materials. They need to see the teacher physically and his facial expression to fully understand the lesson. Verbal learners are those who learn best through verbal lectures, discussion and listening to what others have to say (Fleming, 1995). They get more out of written and spoken words. Kinaesthetic learners are those described as active learners who understand lessons best by participating actively in it whereas the reflective ones point to those who understand a lesson best by thinking about it quietly.

‘Sensing learners’ are students who solve problems by well-established methods but dislike complications (Ikitde & Edet, 2013). They are described as intuitive learners who learn best by discussing possibilities, dwelling on innovation and disliking repetition. Sequential learners are those who gain understanding in linear steps by going through logical stepwise path in finding solutions. The last category is the global learners who according to them always want to learn in large jumps to solve complex problems quickly once they have grasp of the big picture (Fleming, 1995).

This study however concentrates on the learning styles as espoused by Fleming (1995) which is one of the most widely used models in the field of education. In the model, visual, auditory, and kinaesthetic learners are described. According to Fleming, as a teacher, one’s best option is to use a variety of teaching techniques to give all students the best chance to succeed. According to Fleming, (1995) people possess a dominant or preferred learning style. However,

some people have a mixed and evenly balanced blend of the three types: visual, auditory and kinaesthetic (Ikitde & Edet, 2013).

Learning styles research has long been applied at an ever-increasing rate to the problems of students learning in particular and education in general (Doebler & Eke, 1979). Tamada (1996) thus suggest that learning styles are extremely important element in the move to improve curricula, teaching process, and learning in school. Anderson and Adams (1992) indicated that more attention than ever was being focused on how to meet the challenges of increased diversity in the classroom. They argued that one of the most significant challenges instructors face is to be tolerant and perceptive enough to recognize learning differences among their students. According to Archibong (1999), the interest which students show in subjects and the mastery they demonstrate on completion of a course of study greatly depend on the teaching methods and students' learning styles.

Some studies especially in Asia and elsewhere have shown that students' learning styles influenced their learning strategy choice (Ehrman, & Oxford, 1990; Rossi-Le, 1995). Individuals' learning style preferences influence the type of learning strategies they use. According to Ehrman and Oxford (1990), extroverts show a strong preference for social strategies (seeking help from others) whereas introverts use meta-cognitive strategies more frequently. Rossi-Le's (1995) study also showed that learners who favoured group study tended to use social and interactive strategies. On the other hand, Rahimi, Riazi and Saif's (2008) study found no significant difference between learning styles of Iranian

English as a Foreign Language (EFL) learners and their use of resource management learning strategy choices. However, Alireza and Abdullah's (2010) study found that there were qualitatively significant differences between Iranian EFL learners' visual learning style preferences and their use of meta-cognitive learning strategies.

Student Sex

Studies on sex and choice of learning strategies have also revealed varied outcomes. According to Green and Oxford (1995), Gu (2002), and Razak and Azman (2012), females use significantly more learning strategies than males. Females were found to use strategies more frequently even across cultural backgrounds (Brazil, China, German, Indonesia, Japan, Korea, Malaysia, Taiwan, Thailand, and Togo) and disfavoured different strategies than males. A study by Hong-Nam and Leavell (2006) showed that females preferred social (resource management) and meta-cognitive strategies most and cognitive the least; males used meta-cognitive and compensation most and, affective least. In the current study, however, compensation and the affective learning strategies are not going to be explored because of their pertinence language learning unlike Economics in this case.

In contrast, some studies found males to use more learning strategies than their female counterpart. Tran, (1988) long found that Vietnamese refugee males were more likely to use a variety of learning strategies than females in that adult study. Wharton, (2000), also discovered with 678 Singaporean university students that males used a greater number of strategies (cognitive, meta-cognitive and self-

regulated) significantly more often than females. Although Radwan (2011) found no significant gender differences, males used significantly more social strategies (resource management) than females. Other studies did not find gender differences for learning strategy use. Ma's (1999) study for example found no significant gender effect on certain strategies like cognitive, meta-cognitive and affective, unless from different majors. On his part, Griffiths (2003) did not find a statistically significant differences in learning strategy choice in relation to gender. Similarly, Khamkhien, (2010) in a study did not find gender or sex as one of the variables affecting strategy choice.

Particularly with learning strategies, a lot of factors have tended to influence strategy choice. Motivation and gender (sex) have been found to predispose students to particular learning strategies with varied findings and conclusions by the various authors. Motivation has also been found to be an important factor influencing strategy use (Oxford & Nyikos 1989). Yang (1999) in a study found a positive correlation between motivation level to study a subject and use of learning strategies. McIntyre and Noels's (1996) study also found that more motivated learners used more strategies and more frequently. Therefore, Chang and Huang, (1999) concluded that the number of learning strategies used by students was associated with motivation level. On motivation, MacLeod (2002) and Tamada (1996) found with Japanese students in England that instrumental and integrative motivation had significant effect on choice of learning strategy use and the strategy use was affected by motivational level instead of a particular motivational orientation (instrumental or integrative).

Rahimi *et al.* (2008) in a study on Persian learners further found that one of the major predictors of the use of learning strategies was student motivation level. In this study however, motivation level will not be explored to know the extent to which it influences students' use of particular learning strategies. According to Khamkhien (2010), motivation was the most significant factor (followed by experience studying English and gender) that affected the choice of learning strategies (LS). In a similar study with Korean immigrant college students in the United States, Stoffa *et al.* (2011) found no correlation between motivation and direct learning strategies, but a significant relationship was evidenced between motivation and direct learning strategies.

School Environmental Factors

Teaching Methods

Teaching methods employed by teachers in the school environment have been found to influence learning strategy use of students which, eventually affects academic performance (Tamada, 1986). According to Ames and Archer, (1988) learning context has been acknowledged as a factor related to self-regulation, motivation, and use of learning strategies. Teachers actually have several ways to enhance meta-cognitive self-regulation and use of cognitive learning strategies (Solovaara, 2005). By using modelling, scaffolding and coaching, teachers can enhance students' cognitive self-regulation (Hamman, Berthelot, Saia & Crowley, 2000).

Research has over the years shown that performance of students is influenced greatly by the quality of teaching at all levels (Nazeer, 2006). It has

been argued that effective classroom teaching requires professional commitment in which teachers are required to use various teaching models or approaches appropriate to the diverse learning needs of students. Richards and Rodgers (2014) suggested that a model of teaching can be viewed as a description of a learning environment including the teachers' behaviours when the model is being used. Evidence has pointed to the effect that pro-activeness in learning such as learning setting, appropriate goals, self-motivation and persistence in achieving task completion are all essential for performance outcomes. Connell and Brady (1985) described the nature of models as "guides to the preparation and implementation of teaching (p. 11).

The literature shows that teachers' behaviour plays an important role in developing and enhancing students' cognitive learning strategy use (Solovaara, 2005). Teachers communicate goal messages that influence students' choice between different strategies by affecting students' adoption of learning goals. Students' strategic activity is also related to teachers' coaching of learning and particularly to practices by which teachers model the use of strategies and urge students to apply them in different situations (Hamman, Berthelot, Saia, & Crowley, 2000).

Models of teaching are helpful when planning lessons, developing curricula or designing classroom activities and teaching materials because they represent particular teaching approaches that underpin a meticulous set of characteristics to meet certain purposes. Teaching methods and learning strategies are believed to have been made specifically to help students acquire retain

information. Furthermore, some argue that it is important to draw upon teaching models in day-to-day classroom practices because it is believed that how teaching is conducted has a large impact on students' abilities to educate themselves (Stepien & Baernstein, 2006). In other words, teachers teaching methods influence to some extent, the learning strategies and vice versa. Over the years a large number of teaching models have been formulated many of which, vary in precision, theoretical orientation, and critical components. Rodgers (2014) reviewed a large number of such teaching models and chose a section of them based on their utility and practicability in instructional settings.

There has been a considerable body of research that has attempted to investigate the processes of teaching and learning to identify what teachers do in classrooms, and the effect of their actions on students and their learning strategies (McGee & Penlington, 2001). During the 1970s, the mainstream research on teaching was preoccupied with the establishment of causal relationships between the teaching methods used by teachers and improved student achievement. If effective teaching variables could be identified, teachers could then be trained how to use them in classrooms. Although researchers have continued to investigate causal relationships, it has been difficult to quantify accurately the precise effects of different teaching strategies. Anderson, Brophy and Evertson (1979) established years ago that there are positive relationships between teaching skills, learning strategies, and student achievement. However, other researchers like Kane and Engle (2002) and McGee & Penlington (2001) sought only to highlight the complexity of classrooms.

Nazeer's (2006) study confirmed that teachers were accustomed to the traditional teaching method of giving students information, along with some student discussion; this was their preferred method of teaching. As previously stated in this traditional teaching method, information is transferred from teachers to students through direct explanations; therefore, it does not require students' interactions in the actual lesson. They argued that this method was effective for delivering and controlling the flow of the lesson content. Therefore, students were expected to receive the content without making any noise and to pay attention to the teacher throughout a lesson. Some of the comments that teachers made with regard to their preferred method of teaching reflect this teaching method. It is as if good teaching, according to Nazeer (2006) has been defined as any teaching aimed at getting high marks in the examinations for students. This type of teaching method, according to Alfassi (2004), only encourages rote learning. Nazeer (2006) found from an interview session in the Maldives that there was a perception among teachers that successful teachers were those who brought good results to their schools and these became school heroes. Therefore, all teachers tried to get such recognition by encouraging rote learning in order to ensure high pass rates so that they could improve their image in their schools and in the society at large (Becker, Watts & Becker, 2006).

Public and Private Schools

As a matter of fact, private high schools in Ghana differ from public ones in several respects. For instance, there is a defining distinction between them in terms of their sources of support. According to the OECD (2012) report, "public

schools depend primarily on state or government funding” while private schools are usually “supported by tuition payments and sometimes by funds from other non-public sources such as religious organisations, PTA endowments, grants, and charitable donations” (p. 20). Tuition at private schools is paid by parents whereas it is entirely borne by government in public schools.

Another area of difference between public and private SHSs is manifested in the differences in student populations. In Ghana, a lot of the private SHSs have low enrolments compared to the public schools. Also, students bring with them to school certain background characteristics such as their ethnic and linguistic backgrounds and, sometimes, personal or family problems that affect their ability to learn. In fact, public schools tend to have more ethnically diverse student populations than private schools (OECD, 2012). Teachers and administrators take these characteristics into account as they organise and manage their schools and plan and implement curriculum and support services. Thus, to the extent that public and private school students differ, one can expect variations in the learning strategies students use as well. Other student characteristics, such as attitudes toward learning and behaviour toward teachers, are also taken into account; however, these are determined by the school environment as well as students’ backgrounds. It must be noted that ethnic diversity can enrich the school experiences of students and teachers in many ways. However, a heterogeneous school population creates additional challenges for school teachers and administrators, who must be sensitive to different cultural backgrounds and the interactions among individual students and teachers from different backgrounds.

Another relevant area is the fact that public school teachers appear to be more qualified than their private school counterparts. Although many aspects of teacher qualifications are difficult to measure, public school teachers appear to be more qualified than private school teachers in terms of their education and years of teaching experience. This difference could account for differences in their teaching philosophies and approaches which affect students learning strategies and ultimately their performance. Ironically, private high school teachers tend to be more autonomous in the classroom due to the lack of supervision. In both public and private schools, the vast majority of teachers think rather that they have a good deal of control over certain classroom practices: evaluating and grading students, and determining the amount of homework, and selecting teaching techniques (U.S. Department of Education, National Centre for Education Statistics, 1997).

Salary wise, on average, public high school teachers receive higher salaries and more benefits than private school teachers. In a study in the USA, it was found that in 1993/94, the average base salary for public school teachers was \$34,200 and \$22,000 for their counterpart in the private school sector (U.S. Department of Education, National Centre for Education Statistics, 1997, p. 11). Teacher attrition is higher in private schools than public SHSs due to their unsatisfactory working conditions in the USA.

School climate can significantly affect the quality of the educational experience for students, teachers, and other staff as well as parents' satisfaction with their child's school. In terms of school climate, private schools appear to be

safer places for learning compared to public schools. In other words, exposure to crime or threats is far more common in public schools than private ones. The learning environment in schools where students have to worry about being threatened or becoming victims of crime may seriously affect the learning strategies and for that matter their learning achievement (Saidin & Brahim, 2011).

While some systematic differences between public and private education have been outlined here, enormous variation exists within each sector. It is from this analogy that Saidin and Brahim, (2011) recently postulated that being a successful student in school may not depend only on whether the individual attends a public or a private school, but may be due to other school factors. Quality of the learning environment, which is the joint responsibility of students, teachers, school administrators, parents, the larger communities in which the schools are located, and policymaking at the local and state levels must be given the needed attention (Saidin & Brahim, 2011). In line with this thinking, the current study is also postulating that the different ambience in both private and public schools could account for the type of learning strategies students use.

Single-Sex and Co-Educational Senior High Schools

In Ghana, SHS are either single-sex or co-educational. In the Central Region, there are seven public single-sexed (Riordan, 2008) SHSs with the rest being mixed-sexed or co-educational ones. Most of the top schools in the country are single-sexed (Mfantsipim; Wesley Girls'; Presec; Legon; St. Peters Nkwatia; Prempeh College; Adisadel College; Opoku Ware among others). However, there are also equally highly rated high schools in Ghana which are mixed (Ghana

National College, Winneba SHS, Fijai SHS; among others). Mburu (2013) and Riordan (2008) have made a lot of commentary on educational outcome related to school status where students especially girls find themselves attending single sex schools or coeducational schools. This study focuses rather on school status and its influence on students' preference for a particular learning strategy.

According to Booth and Nolan (2009), the learning environment plays an important role in explaining the academic success of a student. Earlier, Meyer, (2008) had asserted that particularly, girls from single-sex schools have been found to behave more competitively than do girls in coeducational schools. This implies that the learning strategies female students may tend to adopt in single-sex schools are likely to be suitable and more beneficial, compared to if they found themselves in the company of boys in co-educational environments. Also, a study by Malacova (2007) found that females frequently expressed more confidence in single-gender settings than in co-educational contexts. The same study also found out that girls found it easier to contribute to oral discussions and to ask questions without being ridiculed in a single gender setting than in mixed-settings. By this, it goes without saying that these girls are also likely to have particular ways by which they studied in order to succeed as students.

Equally, Eisenkopf, Hessami, Fischbacher and Ursprung (2012) analysed the impact of female-only classes on Mathematics achievement, exploiting random assignment of girls into single-sex and coeducational classes in Switzerland secondary schools. They found out that single sex classes improved the performance of female students in Mathematics. In a study, Kessels and

Hannover (2008) found that girls from single-sex Physics classes reported a better Physics self-concept of ability than girls from coeducational classes. Single sex schooling was therefore found to help adolescents to gain a better self-concept of ability in school subjects that were considered inappropriate for their own sex (Meyer, 2008).

There seems to be a perception that students, either girls or boys, encounter forms of distractions in co-educational settings. Other commentators have pointed to the “distraction” inherent in mixed gender educational settings for adolescents. Saidin and Brahim (2011) in a study carried out in single-sex schools in Malaysia found that boys’ performance in English and foreign languages, and girls’ performance in math and science improved in single gender settings. This possibly has been the reason why some parents in Ghana choose to send their wards to single sex learning environments. Some studies have revealed that in gender separate classroom, students have higher motivation and higher confidence levels which offer them better educational opportunities. Could it be the same thing when it comes to their learning strategies? Could the school status really offer motivation for students to adopt a particular learning strategy? Riordan (2015), stating some advantages associated with single-gender education for girls stated that it helps in expanding girls’ educational opportunities, it custom-tailors their learning and instruction, and provides them with greater autonomy, especially in heterosexual relationships. What is clear is that the learning environment be it a single-sex or co-educational has an influence on the learning progress of students in general and girls in particular (Saidin & Brahim, 2011).

According to Sugden (2009), many girls have been found to score higher on their final academic scores from an all-girls' school as compared to a girl who attended traditional high school. In a similar fashion, Sax (2010) in his book, *'Girls on the Edge': The four factors driving the new crisis for girls* argues that at every age, girls in girl-only classrooms are more likely to explore non-traditional subjects such as Computer Science, Physics, Woodworking, among others. In contrast, this study concentrated on rather finding out if sex influenced students' choice of learning strategies. In girls-only learning environments, girls were exposed to more successful female role models (Saidin & Brahim, 2011). The top students in all academic subjects and the leaders in sport and extra-curricular activities were girls.

According to Sullivan, Joshi and Leonard, (2010) by promoting self-esteem, single-sex schools may better equip girls to fight for their human rights in gender-based male-dominated societies. In contrast to this view, Schmuck (2005) and Smyth (2010) criticized single-sex education by arguing that girls-only schools were unnatural social settings which isolated girls from boys.

In well-managed co-educational environments boys and girls learn to respect and value each other's ideas. They learn together, form study groups and adopt learning strategies that inure to their mutual benefits. They also listen and communicate with each other and therefore isolating girls and boys in single-sex schools is considered a barrier to them developing the effective interpersonal skills they require to function as grown-ups in their society (Sullivan *et al.*, 2010). Eliot (2009) also argues that single sex schools automatically expanded the

leadership opportunities available to both boys and girls, and they increased the odds that each sex will enter non-traditional disciplines. Girls have been found to do better in certain subject areas such as Mathematics and Science when boys were not in the class (Riordan, 2008).

Further, a study by Sullivan *et al.* (2010) in British schools that examined the impact of single-sex schooling on learning strategies found that single sex schooling was linked to the attainment of gender stereotyped subjects for both sexes, not just during the school years, but also later in life (Sullivan *et al.*, 2010). Riordan (2008) in a research commissioned by the US Department of Education found that in single –sex high schools, students exhibited high levels of engagement in academic activities and homework completion than students in coeducational schools. Would the situation be the same in the learning strategies they adopt in learning Economics in Ghana? According to UNESCO (2007) and Riordan (2008) policymakers in many education ministries were debating the value of coeducational classes relative to single-sex education.

The heart of most debate is whether girls will be safer in using most appropriate learning strategies and get a better education success if they learn only with other girls or in mixed classes with boys. Separate boys' schools and girls' schools may also bring their students together for some joint education for sport or extra-curricular activities (Smyth, 2010). Proponents of single-sex schools argue that these schools allow girls to flourish in a way that coeducational schools may not (Sugden, 2009).

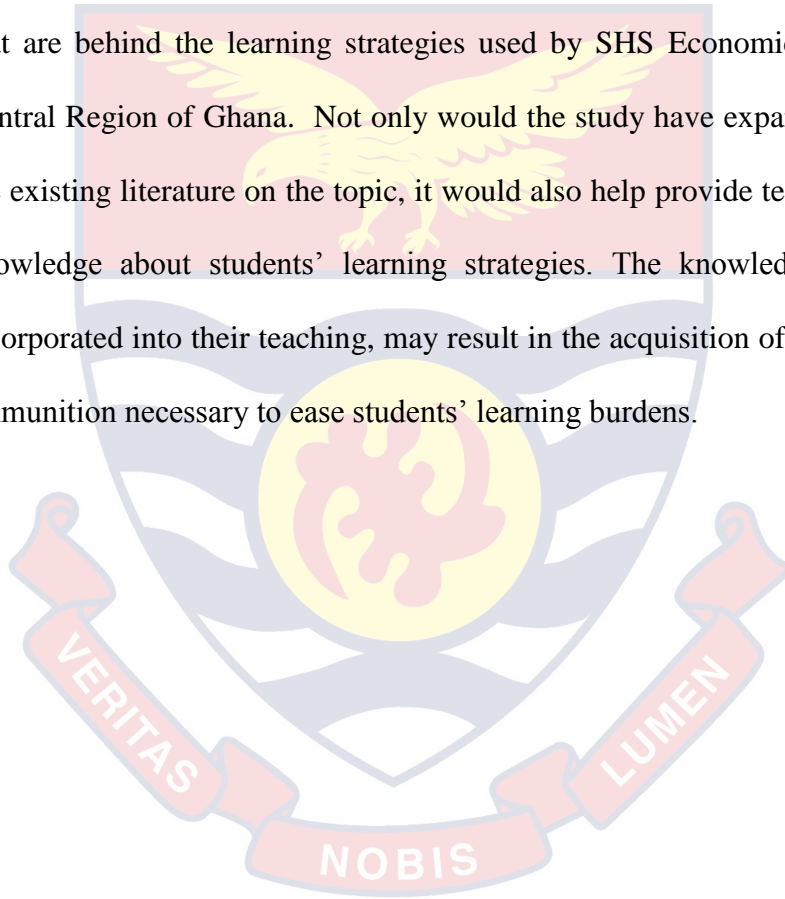
Other studies have also indicated that girls in schools with single-sex programmes achieve higher learning, display more self-confidence and leadership skills, and enter male-dominated fields at a higher rate (Ferrara, 2005). Studies have also shown that girls in single-sex classes were actually more likely to act outside of traditional gender roles (Riordan, 2015). Boys might also feel freer to seek for help from others and also engage in pursuits they may not have considered at a coeducational school. According to the Riordan (2015) report, when girls are around, they are the ones expected to take part in such non-macho pursuits. But when the girls are not in the school, boys may perceive that it is acceptable to fill those feminine roles. Single-sex schools would therefore allow some boys to transcend the gender roles that are typically assigned to them (Eisenkopf *et al.*, 2012).

Despite the desirable nationally stated and pursued goal of gender equity in education, females continue to be disadvantaged particularly at the secondary and post-secondary levels (Wang, 2013). Achievement of gender equality in academic performance is therefore a goal in its own right. Mburu (2013) has intimated that the main area of concern in gender differences in academic performance includes the type of school attended, family factors, persisting negative socio-cultural practices and attitudes which inhibit balanced achievements, gender stereotyping, and socio-cultural classroom interactions.

Summary

From the literature review, it has been established that learning strategies of students forecast the extent to which they are likely to persist and succeed in

their learning. From the constructivist, social constructivist, cognitivist, and behaviourist viewpoints, learning strategies are vital for alleviating the needless pains students go through in learning. A number of earlier studies have dealt with factors that influence students' performance without touching on the learning strategies that students employ to persist in their study of Economics. This study fills an important gap in the literature by investigating student and school factors that are behind the learning strategies used by SHS Economics students in the Central Region of Ghana. Not only would the study have expansionary effect on the existing literature on the topic, it would also help provide teachers with sound knowledge about students' learning strategies. The knowledge gained, when incorporated into their teaching, may result in the acquisition of required teaching ammunition necessary to ease students' learning burdens.



CHAPTER THREE

RESEARCH METHODS

Overview

This study investigated learning strategies that SHS students in the Central Region of Ghana adopted in their study of Economics, with a focus on how student and school background factors influenced their learning strategy use. This chapter describes the methods that I used in carrying out the study. In particular, the chapter describes the research philosophy and the research design. It also highlights the procedural issues in its use, the study area, the population, sample and sampling procedure, researcher's role in the study, and ethical issues. The chapter also describes the process of preparing and processing data for analysis and how the two sets of data were integrated. Again, credibility of qualitative data and ethical issues have been presented and discussed. Finally, requirements for regression analyses have been examined after which a chapter summary, recapitulating the main points has been outlined.

Research Philosophy

This research paradigm advocates for the use of mixed methods in research, “sidesteps the contentious issues of truth and reality and focuses on ‘what works’ as the truth regarding the research questions under investigation” (Tashakkori & Teddlie 2003). Pragmatism is seen as, “debunking concepts such as truth and reality and focuses instead on what works as the truth regarding the research questions under investigation” (Tashakkori & Teddlie, 2003, p. 71). The philosophical theory of pragmatism is seen as a means of bridging the gap

between the empirical singular scientific approach to research and the newer “freewheeling” inquiry of qualitative research theories (Tashakkori & Teddlie, 2003, p. 52). A theoretical framework such as pragmatism can be central to the conduct of research as it focuses on the logical link between the two paradigms of inquiry: quantitative and qualitative (West, 2012).

Derived from the Greek word, ‘pragma’ meaning action, pragmatism is a philosophical movement founded in the late 19th century by American philosopher Charles Sanders Peirce. William James, John Dewey, George Mead and Arthur Bentley later expanded upon his initial work. The early pragmatists felt that the world could not be accessed solely by a singular scientific method (West, 2012). Instead, they believed that ordinary experience and desire for a better world was the key to successfully understanding the world.

Klenke (2016) points out that research paradigms make assumption about the nature of reality (ontology), how knowledge is constructed (epistemology), and assumes that the values (axiology) a researcher brings to selection of method, participants, data collection, analysis and interpretation influence the research process. Ontologically, Tashakkori and Teddlie (2003) argues that pragmatists believe there is an external world independent of our minds. On the other hand, pragmatists deny that ‘truth’ can be determined once and for all. Pragmatism rejects either-or view on constructivism and positivism, and rather embraces both points of view. It believes that researchers may be both objective and subjective in epistemological orientation over the course of addressing a research question. On the axiological ground pragmatists believe that inquiry is value free. They believe

that values play no role in conducting research and drawing conclusions from their studies. Pragmatic choices about what to research and how to go about it are conditioned by where we want to go in the broadest senses.

Research Design

A research design refers to the overall strategy that a researcher chooses to integrate the different components of a study in a coherent and logical way, in a manner that ensures the effective address of a research problem. It constitutes the blueprint for collection, measurement, and analysis of data (Myers, Well & Lorch Jr, 2013). There are myriads of research designs which could have helped me to address the relevant issues in this study. Nonetheless, I chose the explanatory sequential mixed methods design, specifically the partially sequential dominant-status-quantitative (PSDSQ) (Powell, Mihalas, Onwuegbuzie, Suldo & Daley, 2008; Leech & Onwuegbuzie, 2009). Traditional explanatory sequential mixed methods research occurs in two distinct phases. During the first phase, (quantitative phase) data are collected and analyzed around the quantitative-focused questions. The information gained from that collection and analysis is then used to inform the qualitative phase of the study in terms of data collection and analysis, and the two phases are connected in the third phase (Creswell *et al.*, 2011).

I chose a sequential explanatory mixed method design because it fitted well into the purpose of this study. A sequential explanatory design two-phased mixed methods research strategy was used where qualitative data helped to explain or build on quantitative results (Creswell *et al.*, 2003). The partially

sequential dominant status-quantitative design was chosen due to the fact that the variables for the study (the learning strategies, learning styles, sex, and motivation) were largely well-known in the literature especially in language education and statistical techniques were available to identify these variables from the Ghanaian perspective. Then the qualitative data were required also to shed light on the statistical results from the quantitative phase.

The design has evolved through its extensive use by numerous researchers who desired to have comprehensive understanding of pertinent phenomena that warranted a scientific study. One of such studies was conducted by Ivankova and Stick (2002) who sought to understand students' persistence through a doctoral programme at the University of Nebraska at Lincoln. In that study, quantitative data was collected and analyzed using a student survey of current and former doctoral students. Data were analyzed with respect to multiple factors that the researchers deemed essential to student persistence in the programme with the goal of identifying predictors. During the qualitative phase, four participants were selected in a multiple case study approach to help explain the predictive variables for persistence or lack thereof in the programme.

In another study conducted by Igo, Riccomini, Bruning and Pope (2006), a variant of the explanatory sequential mixed methods design called "follow-up explanations variant" was used (Creswell *et al.* (2011, p. 218). This particular study focused on quantitatively studying the effects of different note-taking strategies on student achievement as measured by classroom test scores. Igo, *et al.* (2006) began their study by collecting quantitative data using student test scores.

In their second phase, they gathered interview data and student work samples in order to understand student attitudes and note-taking practices to help explain the student achievement results.

According to Ivankova, Creswell, and Stick (2006), there are several advantages and disadvantages associated with the traditional explanatory sequential design model. Morse (1991) noted that the advantages include the simplicity of the model and the opportunity for the researcher to explore the quantitative portion of the study in much more detail. Further, many researchers choose to implement the explanatory sequential design because of its usefulness to help explain results that are unexpected (Morse, 1991). Venkatesh, Brown and Bala (2013) commenting on the purpose for the use of mixed methods design presented seven purposes which imply the advantages of the design as follows:

- a. Complementarity - to obtain mutual viewpoints about similar experiences or associations.
- b. Completeness - to ensure that total representation of experiences or associations is attained.
- c. Developmental - to build questions from one method that materialize from the implications of a prior method or one method presents hypotheses to be tested in a subsequent method.
- d. Expansion - to clarify or elaborate on the knowledge gained from a prior method.
- e. Corroboration/Confirmation - to evaluate the trustworthiness of inferences gained from one method.

- f. Compensation - to counter the weaknesses of one method by employing the other.
- g. Diversity - to obtain opposing viewpoints of the same experiences or associations (Venkatesh *et al.*, 2013 as cited by Caruth, 2013, p 113).

Despite the advantages associated with the use of this design, there are also disadvantages. In order to deal with problems of time and resource constraints in implementing the two distinct phases, I adopted the guidelines provided by Ivankova *et al.* (2006). First, I determined data priority during the research design phase and the data collection and analysis phase. Second, I determined when the implementation of the phases should occur in sequence and the resources to help me carry them out. The experiences of many researchers show that in a traditional explanatory sequential model, quantitative data is given priority and data collection and analysis happens in two distinct phases, however that decision should be based solely on the research objectives and the availability of the resources throughout the study process (Ivankova *et al.*, 2006). Third, Ivankova, *et al.* (2006) suggested that the quantitative and qualitative research approaches must be integrated.

Procedural Issues in Sequential Explanatory Design

Priority

Priority refers to which approach, quantitative or qualitative (or both), a researcher gives more weight or attention throughout the data collection and analysis process. In this study, I gave more priority attention (more weight) to the quantitative data i.e. the dominant method in the first phase (Creswell, 2003). On

the other hand, less weight was given to qualitative method or the less dominant method in the second phase (Ivankova *et al.*, 2006). According to Morgan (2007), the priority of what phase comes first may change either before data collection, during data collection, or during data analysis depending on the goals of the study and the research questions to be addressed. The goal of the current study was to identify the variables that predispose SHS Economics students to learning strategy choice with emphasis on those variables that best predicted and explained learning strategy choice.

The qualitative phase of the study involved exploring further the quantitative data which explained the statistical results from the correlation and multiple regression analyses. During the qualitative phase, data from the classroom observations in three SHS and data from interviews in six SHSs with Economics students were analysed with a view to fostering a deeper understanding of each explanatory variable. I converted the semi-structured interview data and classroom observation notes into word documents for easy analysis.

Implementation

Implementation entails determining whether qualitative or quantitative data comes first, second, or concurrently in the data collection (Creswell, 2003). In this study, I first collected the quantitative data using self-administered survey instruments - questionnaires. The goal was to identify potential explanatory variables that best predicted and explained factors that influenced the learning strategies used by SHS Economics students. I then collected and analysed

qualitative data to help explain why some explanatory variables were statistically significant or non-significant or contradictory predictors of learning strategies used or adopted by students (Mwathi, 2014). The data (for the first and second phases) were then integrated and interpreted (Greenwood & Terry, 2012; Gambrel & Butler, 2013). A schematization of the implementation procedure has been provided in Figure 4.

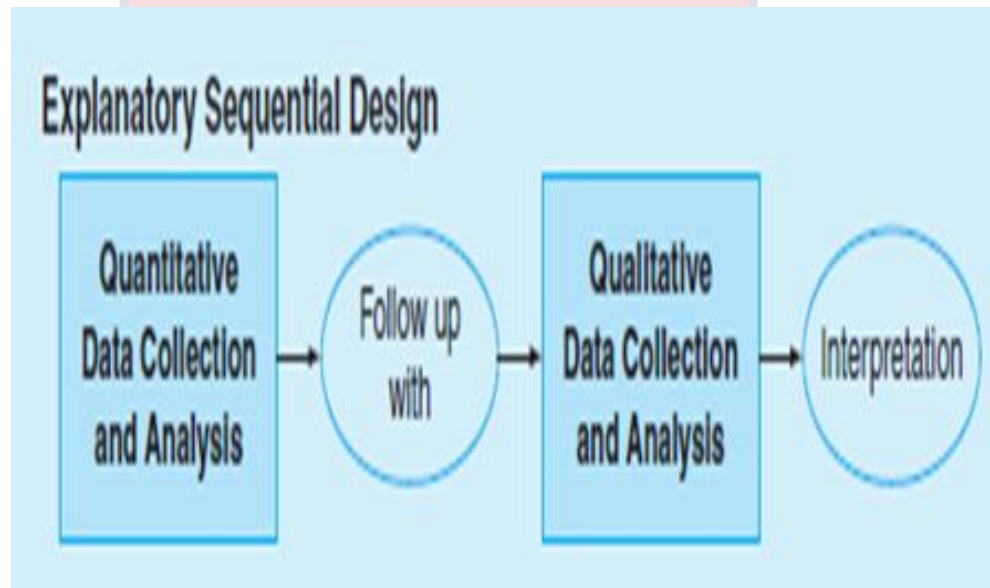


Figure 4. A schema of the explanatory mixed methods design used in this study
Source: Creswell (2012, p. 541).

From Figure 4, one sees that the quantitative data (Phase 1) was collected and analysed prior to the collection and analysis of qualitative data in Phase 2. After analysis of the quantitative data, I followed up with the qualitative data collection and analysis and connected the two phases through integration to obtain the predictor variables (and the necessary explanations) responsible for the choice of learning strategies by SHS Economics students in the Central Region of Ghana.

Integration

Traditionally, quantitative and qualitative methods are integrated after data have been analyzed. Variations of the explanatory sequential design include integrating the data types through the development of the collection protocols based on the quantitative results (Ivankova & Stick, 2006). Creswell *et al.* (2011) explain integration in mixed methods research as “the process of grouping evidence and labeling ideas so that they reflect increasingly broader perspectives” (p. 208). I therefore interpreted the themes from the qualitative and quantitative data and connected them through comparative figures or explanatory interpretations. I also interpreted part of the data through the use of joint-display analysis which sought to merge both data sets in line with the purpose of the design (Creswell *et al.*, 2011).

Study Area

The setting for the study was the Central Region of Ghana. My professional background as a teacher, resident in Cape Coast in the Central Region of Ghana influenced the choice of the setting. The Central Region is one of Ghana's ten administrative regions bordered by Ashanti and Eastern regions to the north, Western region to the west, Greater Accra region to the east, and to the south by the Atlantic Ocean. The region is renowned for its many elite higher education institutions and an economy based on an abundance of industrial minerals and tourism. The Central Region attracts many tourists throughout the year due to its castles, forts, monkey sanctuaries, national parks, and beaches stretching along its

coastline. The region covers a landmark area totalling 9,826 km² corresponding to 3,794 sq miles. The region has a density of 220/km² (580/sq miles) with a population size of 2,201,863 (National Population and Housing Census Data, 2010).

The region has long been noted as the hub of Ghana's education since it has most of the best schools in the country. Schools such as Mfantshipim, Adisadel, and Wesley Girls' among others have over the years excelled at the WASSCE. However, there are also some schools in the region which do not perform well in terms of academic work. As a result of this academic dichotomy, a lot of parents refuse to patronize schools perceived to be low performing ones in the region. Also, there is a perception that most of the schools in the region attract the best teachers due to the location of two leading universities (University of Cape Coast and University of Education, Winneba) in the region. In number, there are 56 publicly funded SHSs of which 53 (94.6%) offer Economics. Also, there are 35 private SHSs out of which 21 (60%) offer Economics in the region.

The public schools have boarding/hostel and day facilities and these institutions admit best students with best BECE results most of whom come from the endowed private schools considered the best schools in the region. Some of these schools have enviable reputation for producing many prominent Ghanaians who are connoisseurs in their own fields of endeavour. Some of the schools are also endowed with more teaching and learning facilities than others. Other schools also within this bracket only have day facilities for students. A lot of these schools are public schools located in deprived areas of the region. They mostly

admit students of average ability who come from lower economic districts of the region. Students here do not have the best of learning facilities to make use of and some of them usually also have discipline problems. Teachers in public schools are relatively well-trained professionals with the requisite competencies to teach.

On the other hand, most of the private schools are located largely in urban areas where possibly proprietors could target financially endowed parents. The private schools in the region mostly admit students whose parents find it difficult to secure admissions for their wards in the top-notch schools. These parents are mostly those who can afford to pay for full tuition for their wards in these schools. The private schools often lack students of highly educated parentage backgrounds but with the financial capacity to pay for full fees. Most of these schools lack the necessary facilities that enhance student learning. Teachers in these schools are often people with no requisite professional qualification to teach the subjects they are assigned to teach because of inability of the proprietors to hire services of qualified people. The private and public schools offer programmes that help students continue their studies to the tertiary level. The Ministry of Education (MoE), through the GES exercises oversight monitoring responsibility over these schools since it is the implementing agency for the Ministry.

Population

The total number of third year SHS students in the Central Region for the 2017/2018 academic year was estimated to be 12,101 (EMIS, CENTRAL, 2017). Of this number, 6,383 (52.4%) were males whereas 5,798 (47.6%) were females.

However, the population for the study comprised only third year students who were studying Economics as part of their programmes during the 2017/2018 academic year. They were estimated to be 6,911 in all the public and private SHSs in the region (EMIS, CENTRAL, 2017). In terms of gender about 3,587 (51.9%) were males whereas 3,324 (48.1%) were females. The third year Economics students were chosen because they were deemed to have had enough studies in Economics and were therefore in a better position to respond to the pertinent issues (such as what they see their teachers do in class, how they go about learning, among others) of the study. The ages of the students ranged between 16 and 18. The programmes in which Economics was offered were General Arts, Business and Home Economics. There were 53 public and 19 private SHSs that offered Economics as a subject in the region. In this study, emphasis was placed on how demographic variables such as sex, motivation, teaching method, learning styles, school-type, and student status influence learning strategies.

Sample and Sampling Procedure

Sample Size Determination

I chose a sample size of 720 Economics students for this study. A number of factors went into the final determination of this sample size. Generally, some of these factors included, “the importance of the decision (on this sample size), the nature of the research, the number of variables, the nature of the analysis, sample sizes used in similar studies” (Dhurup, 2015, p. 21), “completion rates and resource constraints” (Malhotra, 1999, p. 332). For instance, in relation to importance of the decision, the large sample size was used in order to boost the

statistical power of the quantitative analysis. Besides these factors, I used two clear strategies to determine the sample for this study. Firstly, I used an online software to calculate the sample size for correlation test (StatsToDo, 2014). With this online computation (with a 4% margin of error and 95% confidence level), a sample size of 573 was obtained (Sample Size Calculators, 2016). The margin of error for this calculation represented a plus-or-minus figure usually reported in newspaper or television opinion poll results (Bujang, & Baharum, 2016). This calculation makes use of a margin of error and a confidence level indicating how one can be sure about the margin of error (Bujang, & Baharum, 2016). It is often expressed as a percentage and represents how often the true percentage of the population picked an answer lying within the margin of error.

Secondly, I used Yamane's (1967, p. 886) simplified formula to calculate the sample size based on an estimated population size of 6,911. The calculation assumed a 95% confidence level as depicted by the following equation:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision, given to be 0.05. When this formula was applied to the above sample, the following was obtained: $n = 6911/1+6911(0.05)^2 = 383$. Further, a table showing sample size for a $\pm 5\%$ precision level, with 95% confidence level, P of

0.5, and for an approximately 7,000 population size by Israel (2003, p. 3) showed a figure of 378.

These two measures averagely yielded a sample size of 478 which, Bartlett *et al.*, (2001) described as the minimum sample size necessary for a study. However, since this study, like many other educational studies, use voluntary survey data collection method (questionnaire), the response rates are likely to be typically below 100% (Bartlett, Kotrlík & Higgins, 2001). For this reason, Salkind (1997) recommended oversampling when he stated that, “if you are mailing out surveys or questionnaires, . . . count on increasing your sample size by 30%-50% to account for lost mail and uncooperative subjects” (p. 107). In this study, though the questionnaire was not mailed, participation was voluntary and therefore full participation of respondents could not be guaranteed.

As a result, I adopted the over sampling method being aware of an assertion by Fink (1995) that, “oversampling can add costs to the survey but is often necessary” (p. 36). In line with oversampling, I added 242 students (representing 33.6%) to the participant list, bringing the total number to 720 students.

Sampling Process

The prospective contributors of this study comprised all 6911 third year Economics students (EMIS CENTRAL, 2017) in all 72 public and private SHSs in the region. Multi-stage sampling technique was used to select students for this study. Multistage sampling is a complex form of cluster sampling which involves dividing the population into clusters and selecting one or more clusters (in this

case, all the clusters) at random allowing everyone within the chosen cluster to be sampled. This technique, in simple terms, involves identifying and defining the population, determining the sample size ($n=720$), selecting clusters randomly (all in this case), and from the clusters, selecting individual elements randomly to form the cluster random sample.

I chose to use this technique because it allowed me to deal with the large number of students within the population. It further enhanced sampling using smaller and smaller sampling units at each stage for the sake of feasibility (practicality reasons). Since my objective was also to minimise the variance of parameters estimated and to maximize the total number of subjects with the desired characteristic, this technique was best suited for the purpose. After a sample size of 720 students was determined, the sampling process entailed the following stages:

1st Stage: The population of schools was divided into two clusters (public = 53 schools and private = 19 schools).

2nd Stage: Then, 34% of the public and private schools was used to select a number of schools within each cluster. The 34% proportionate sample size translated into approximately 18 schools [$.34 \times 53 = 18$] for the public and approximately six (6) schools [$.34 \times 19 = 6$] for the private schools, making 24 schools in all. I only ensured that there were even numbers of single-sex schools in the randomly selected schools within the final 18 public schools. In all, 24 schools, representing 33.3% of the 72 SHSs in the region was used.

The 18 public schools selected for the study were: Ekumfi TI Ahmadiyya SHS; Aburaman SHS; Nyankomase Ahenkro SHS; Efutu SHSTech; Jukwa SHS; Boamponsem SHS; Swedru SHS; Ghana National College; Aggrey Memorial SHS; and Potsin Ahmadiyya. The rest included Apam SHS, Assin Manso SHS; St. Augustine College; Holy Child SHS; Winneba SHS; Mfantsiman Girls' SHS; Adisadel College; and Eguafo Abrem SHS. The private schools included Sammo SHS; Oxford SHS, Tufuhene; Nsaaniyya SHS; Great Lamptey Mills SHS; St. Andrews SHS, Fosu; and Cape Coast International School.

3rd Stage: I then used stratified sampling technique based on sex (male/female) to select 30 students in each participating school (15 boys and 15 girls) in the form of constant “take size” of 50%-50%, to allow for 360 males and 360 females to be selected.

To select the participants for qualitative phase, six (6) students, I used the typical case purposive sampling for the semi-structured interviews. According to Lee, Woo and Mackenzie (2002), studies that use more than one method need fewer subjects and hence the number of interviewees. I used the typical case purposive sampling since in my judgement the procedure could help me study the phenomenon of learning strategy use for the "average" day and boarding/hostel economics student. Prior to this, I used the typical case purposive sampling to select two public schools and one private school for the classroom observations. The reason for the use of this technique was that in my judgement, it afforded me the opportunity to observe a “typical” economics teaching session in an average public and private school in the region.

Data Collection Instruments

Three instruments were used to collect data: a questionnaire, observation and interview schedules. The literature on student learning strategies actually showed the existence and use of very robust instruments some of which were adapted for this study. The instruments were developed after thorough review of previous studies on the subject and specifically reading the work of McKeachie *et al.* (1986). After the review, a model of instruments whose contents reflected the study objectives (Creswell, 2011) was developed. McKeachie *et al.*'s (1986) work contained two main learning strategies: cognitive/metacognitive strategies and resource management strategies. In this section, each instrument is described in detail and a justification given regarding its appropriateness for the study.

Development of the Questionnaire

As indicated earlier, the questionnaire was developed from the one used by McKeachie *et al.* (1986). Additionally, Fleming's (1995) learning style questionnaire was also incorporated into the questionnaire. I developed the questionnaire with the aid of my two research supervisors and other colleagues in my department. The contents of the questionnaire were derived from the literature on the subject. Copious literature materials related to studies in the past (Kistner *et al.*, 2010; Dignath & Büttner, 2008; Dignath, Büttner & Langfeld, 2008; Hamman, Berthelot, Saia & Crowley, 2000; McKeachie *et al.* (1986); Brown, 1987) were reviewed and the various questionnaires the various authors used became strands on which a model was developed. The item format for the questionnaire was suggested by the design of the study.

Since a well-designed questionnaire requires planning, thought, and effort the questionnaire was structured in stages. First, at the initial consideration stage, I had to be clear about the type and nature of information I needed to collect vis-à-vis the population (McGuirk & O’Neill, 2005). This is where the most appropriate method for administering the questionnaire (i.e. the face-to-face) was considered. The second phase, perhaps the most important stage, was where I needed to ascertain how aspects of the draft questionnaire related to the research questions taking into cognizance the extent to which “questions add value, are clear and easy to understand, and how well they ask what they profess to ask devoid of confusion” (Parfitt, 2005, p. 82). The fourth phase was the stage of ‘pilot-testing’ the questionnaire with a small sample of potential respondents before actual use.

This exercise was aimed at checking students’ understanding and ability to answer the questions, highlight areas of confusion and look for any routing errors, as well as providing an estimate of the average time each questionnaire will take to complete (Parfitt, 2005). Feedback at this stage was factored into designing the final instrument and so amendments were made to the pilot based on the highlighted areas before the issuance of the final version of the instrument (McGuirk & O’Neill, 2005). Figure 5 portrays the important phases leading to the final questionnaire for the study.

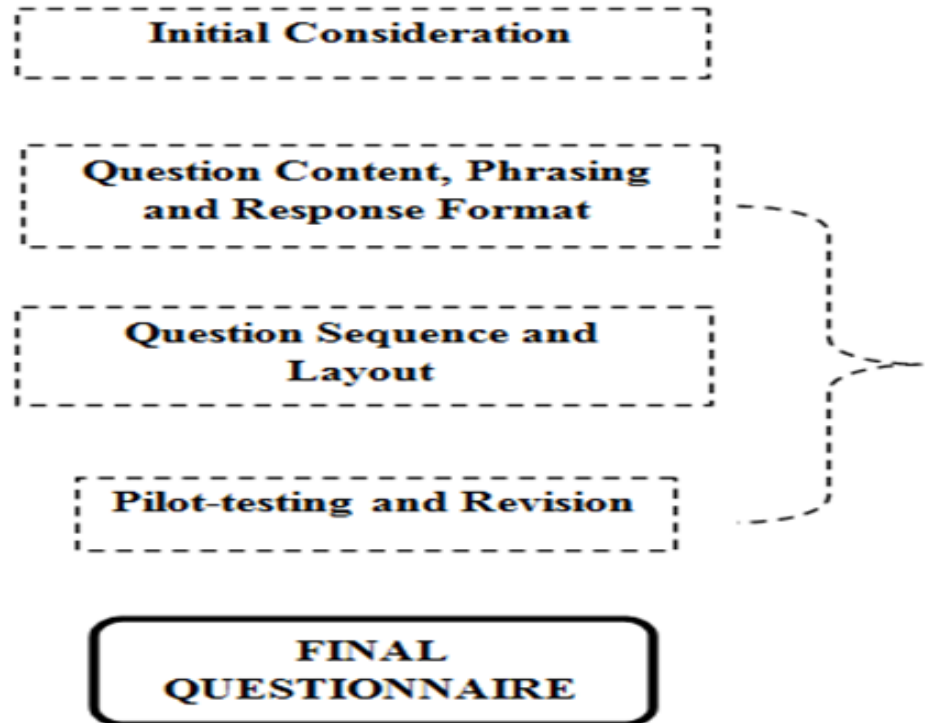


Figure 5. Important phases in the development of the final questionnaire for the study. **Source:** Author, 2016.

The item format for the questionnaire was occasioned by nature of the research questions. My major consideration was how the items could help me measure the variables to answer the research questions and also to test the hypotheses.

Structure of the Questionnaire

The questionnaire consisted of four sections, each relating to a sub-theme of the study. Section A comprised five items touching on the school type, student sex, student status, and motivation to study Economics. Then section B consisted of six (6) items relating to the methods of teaching used by Economics teachers. The items were measured on a five-point Likert type scale ranging from never (0) to always (4). Section C consisted of eleven (11) items that focused on the

different student learning styles (visual, auditory, and kinaesthetic) according to Fleming (1995). The items here were measured on a five-point Likert type scale ranging from strongly disagree (0) to strongly agree (4). Section D, the final section, composed of 45 items measuring students' learning strategies on three thematic areas: cognitive (items 1–14), metacognitive (items 15 – 32), and resource management strategies (items 33 – 45). These items were also measured on a five-point Likert type scale ranging from never true of me (0) to always true of me (4). In all, the questionnaire contained 65 items eliciting varied responses from students.

The use of the questionnaire in this study, just like many others, came with benefits and costs. For instance, as a benefit, the questionnaire allowed me to cover a “large number of students I intended to survey at a relatively cheaper cost” (Bird, 2009, p. 131; McGuirk & O’Neill, 2005). With this, I was able to reach all 720 selected students spread across the whole of the Central Region who lived in remote locations. The questionnaire allowed the respondents to furnish the necessary information at their own pace and convenience, thus reducing any biases that may arise due to researcher presence (Parfitt, 2005; de Vaus, 2002). With its use, respondents were able to respond at their own time. Also, it was easy and quick for respondents to provide answers to the responses. Again, the close-ended nature of the items improved consistency of responses and made it easier to compare with other respondents. Above all, it was easier, quick, and less costly to analyze data from the close-ended questionnaire items.

On the other hand, there were a number of disadvantages associated with the use of closed-ended questions. Firstly, it had the potency of putting ideas into respondents' minds thereby making them to select answers similar to what they perceive to be true, even though it may be different. It has been found that questionnaire with many options could confuse respondents, the result of which could lead to leaving some options without respondent opinion. This results in loss of vital information which misrepresents findings. However, these threats in the use of the questionnaire did not happen in this study due to the measures I put in place to mitigate such effects on the study. The items of the questionnaire were worded in simple terms such that the problem of confusion was almost an impossibility.

Secondly, since the use of questionnaires had the tendency of resulting in low response rates and in some instances, total refusal of respondents to complete (Bird, 2009), I constantly sent reminders to the respondents through the Economics teachers in my absence. Also, there was no problem regarding those who were to complete the questionnaire since all the selected students were made to consent to participation. Also, given that the selected students could read, I encouraged them to provide honest views. To deal with the issue of misunderstanding, I took time to explain contents of the questionnaire to students before the start of the exercise. I then encouraged them never to hesitate to ask questions relating to the items on it. These measures in totality helped to reduce respondent biases thereby enabling me to obtain the required ingredients in making informed conclusions (Parfitt, 2005).

Lastly, in order to deal with the imperfections associated with the questionnaire (as a self-report medium whose data cannot be relied upon), I added other two sources of data (observation and interview) to enhance understanding of the issues. Table 2 provides a summary of the student questionnaire for the study.

Table 2: Structure of the Students' Questionnaire

Section	No. of items	Measurement Scale	Literature Source	Focus/Purpose of items
1	4	Nominal	Tamada, 1996; McKeachie <i>et al.</i> , (1986)	Bio-data on students (school name, school type, sex, interest, and student status)
2	5	Interval	Smirnov, 2015; CRDD, 2015; Nazeer, 2006	Exploring issues on teaching methods in Economics.
3	11	Interval	Fleming (1995) McKeachie <i>et al.</i> , (1986)	Investigating the learning styles of students
4	45	Interval Nominal	McKeachie <i>et al.</i> , (1986);	Delving into the learning strategies of Economics students: cognitive; meta-cognitive, and

resource management strategies.

Total	65	n/a	n/a	n/a
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NB: n/a means not applicable.

Source: Author Construct, 2017

Validity and Reliability of the Questionnaire

To report on my research validity, I adhered to the dichotomy suggested by Campbell and Stanley (1963) as cited in Dörnyei (2007, p. 50) who separated the internal validity of the research from its external validity. Internal validity refers to the choice of research variables which should lead to an outcome being the function of these variables. External validity on the other hand, relates to how the sampling results can be generalised to a larger population. In this study, I took certain steps to ensure the two.

Firstly, I selected the variables with respect to learning strategies seen to be adopted by students in the Central Region of Ghana. My aim was to establish whether the strategy choice correlated with student and school background variables. There is a high degree of homogeneity of the Ghanaian education system which is regulated by the Ministry of Education and this makes my sampling generalisable. The sample allows for generalisability also because the teaching curricula at the SHS are universal across the country and based on the standards set by the West Africa Senior Secondary Certificate Examination (WASSCE). As a result, the teaching materials, teaching methods, and learning goals do not vary significantly among the schools.

Content and construct validity of the questionnaire were ensured via inputs made by professionals and experts including my two supervisors. Validity is determined and guaranteed by expert judgment. As a result, the CVR (content validity ratio) proposed by Lawshe (1975) which is a linear transformation of proportional agreement on experts' rating an item 'essential' was used.

Finally, to ensure credible findings, research reliability had to be proven. A measure of internal consistency of the questionnaire items had to be ascertained. In this regard, the questionnaire was pilot-tested on 96 SHS Economics students in six (6) randomly selected schools in the Takoradi metropolis between 13th and 17th February, 2017. Sixteen (16) students were selected from each school and surveyed using stratified random sampling based on sex and typicality of students. A hundred percent (100%) return rate was recorded from the pilot testing. The aim of the pilot-testing was to provide bases for revisions to the questionnaire before formal administration. The pilot testing was analysed using the Predictive Analytic Software Ware (PASW) version 20.0.

In the end, a Cronbach alpha reliability coefficient of .61 was initially found implying little cohesiveness in the individual items. Based on the suggestions by the analytic software (PASW), some 22 items were deleted to improve the reliability coefficient. The reliability test was run again and a new reliability coefficient of 0.94 was obtained suggesting high cohesiveness of the items. The pilot exercise also paved way for all confusing items to be reworded to ensure their comprehensiveness going forward (Dornyei, 2003; Saris & Gallhofer,

2007). Table 3 illustrates the summary of pilot-testing establishing the reliability coefficient.

Table 3: Results of the Pilot-testing establishing Reliability of the Questionnaire

Refinement Process	Sample size	No. of Items	Coefficient of reliability	Items deleted
Old Questionnaire	96	76	0.607	Not applicable
New Questionnaire	96	52	0.939	q6, q8, q13, q15, q16, q17, 18, q24, q30, q32, q36, q38, q42, q44, q48, q51, q54, q56, q60, q62, q66, q72,

*** q represents the item*

Development of the Observation Schedule

The observation guide was developed based on the format for lesson observation used by the Centre for Teacher Professional Development (CTPD), formerly the Teaching Practice Unit (TPU), of the University of Cape Coast. The content of the guide focused on classroom parameters related to content organisation (comprised nine (9) items), use of resources and learning environment (comprised five (5) items), teaching method (consisted of seven (7) items), and teacher-student interactions (which comprised nine (9) items). The final item required observers to comment on their overall impression about the class: whether the raters considered the class a good or a bad one.

Development of the Interview Schedule

The interview schedule was divided into three main parts: Part 1 consisted of two items (with sub-items) which related to teachers' teaching methods. Part 2 consisted of two items that concentrated on the learning styles of students. The third part contained 18 items (with some sub-items) touching on student learning strategies.

Data Collection Procedures

Pursuant to the doctrine of the partially sequential dominant status-quantitative design, the data collection procedures were organised into two phases. Phase one concerned the collection of quantitative data whereas phase two dealt with qualitative data collection. Before describing these phases, however, it is necessary to describe my role as investigator and ethical issues related to the data collection process.

Researcher's Role

My identity as a researcher was seen in the various roles that I played during the field work. The roles I played reflected both as a quantitative and a qualitative researcher. These roles, some of which focused on activities to ensure adherence to ethical principles, the research methods used, communication with respondents, approaches to data gathering, and the presentation of thesis report were crucial in ensuring credibility (Unluer, 2012) and trustworthiness of the study.

Firstly, as investigator conducting research involving human elements, one of my priorities was to ensure that ethical principles in research were adhered to.

Ethical issues related to anonymity of participating schools and individual Economics students were crucial. In the first place, I followed the formal procedures for seeking permission and administering informed consent as required of a researcher. Another role I played was seen in the things I did in the use of the mixed methods design.

Secondly, my use of the mixed methods designed, assuaged some of the problems such as bias and misinterpretation of results associated with the sole use of quantitative or qualitative method. By juxtaposing the results of the two methods, I gained deeper meanings related to different aspects of learning strategies. In other words, the triangulation of the two methods produced knowledge on different levels, thereby giving insights that went beyond the knowledge made possible by one approach, thus contributing to promoting quality research.

Thirdly, as Flick (2014, p. 158) pointed out, of great relevance is the “communicative competencies” of both the researcher and the respondents in data collection. He suggested that the researcher cannot assume a neutral role with participants during data gathering. I therefore ensured that respondents were not in doubt as to what to do. They were given explicit instructions as to their roles and their concerns were also addressed.

Fourthly, another role I played reflected in how I approached data gathering. I ensured that meaningful, well planned, activities were carried out to achieve set out objectives. In this study, I was actively involved in the data collection from participants. In fact, in the qualitative sense, the researcher,

according to Lincoln and Denzin, (2003) is considered an instrument of data collection and this was what I did. My role therefore was to personally collect the qualitative data (both observation and interviews) and recruit two research assistants to help administer the questionnaires. During the interviews, I used probing questions, listened, thought, and then asked questions to get deeper understanding of the hidden issues which could not be explained by the questionnaire (quantitative data).

Eventually, I took charge of the data generated; managed respondents' information and ensured that they were used for the intended purpose. Being familiar with the SHS Economics curriculum guide (syllabus) though unfamiliar with the participants, I assumed a role of an outsider-researcher. Again, having worked as a classroom teacher (in the past) at the SHS level provided me greater understanding of the cultures within the schools. This prior background knowledge helped me to enjoy a reputable intimacy with the students which also encouraged them to respond candidly to the questions asked. There was a natural flow of the interactions in very congenial environments. For instance, because I was unfamiliar with the respondents, objectivity was guaranteed with no bias tendencies.

Finally, from the data gathering, I considered all the variables of learning strategies, analysed, and presented them as results or findings. In doing this, I tried to produce the thesis report just as I saw, heard, and thought of the Economics students. As a researcher I projected the information in the thesis with students' voices representing their points of view rather than mine "on their own

terms and in their own words” (Stern, 2008, p. 99). In sum, I considered my identity as critical in the research process and thus painstakingly took steps to ensure that the data collected was a true reflection of students’ personal views and their actual practices in the context of the study.

Phase One: Quantitative Data Collection

Quantitative data was generated through the administration of questionnaires to students. I employed a cross-sectional descriptive (survey) design to collect the quantitative data. Data collection involved distributing copies of the cover letter introducing the study, the informed consent form, the research permit, and paper-based survey instruments to third year SHS Economics students in the Central Region of Ghana. I did this with the help of two research assistants. These people were recruited and debriefed on the rationale prior to data collection. The reason for hiring the services of an extra hand was that it was impractical to single-handedly administer the questionnaire in all 24 selected schools spread throughout the Central Region. The data collection began in the latter part of the third term (i.e. May, 2017).

Since it was a cross-sectional data, the investigator and the research assistants, after having familiarized with the teachers in the selected schools went into the schools to administer the questionnaire. The investigator and the two assistants distributed the questionnaires each day that a school was visited. The questionnaires were distributed during the first break and students were made to submit same after the second break. This was a measure to give students ample time to complete the questionnaires. Through the class teachers, reminders were

sent to respondents who failed to submit the completed questionnaire. To achieve a high response rate, we collected the questionnaire from the students after they had been completed.

Preparation of Quantitative Data for Analysis

Preparation of the data for analysis entailed the process of editing, coding, data entry, and cleaning. The generated quantitative data was first organised, documented, and edited before analysis. Data editing is a quality-control process applied mostly to paper-and-pencil surveys. Its purpose is to ensure that the information on a questionnaire or interview schedule is ready to be transferred to the computer for analysis (Sonquist & Dunkelberg, 1977). 'Ready' means that the data are as complete, error-free, and readable as possible. Editing was carried out both during and after the process of data collection, and much of it occurred simultaneously with coding.

I did dummy coding using SPSS analysis by assigning numerical codes or symbols to variable categories. The categorical variables were assigned 1 and 0. For instance, for the variable sex, code 0 was assigned to males while 1 was assigned to females. For the Likert scale type items, they were coded on a five-point type scale ranging from 0 to 4. These numerical codes were generally specified directly on the questionnaire.

There are several options for data entry but I chose that of paper and-pencil surveys entry into a computer file using data-entry software programmed to detect some kinds of erroneous entries, called computer-assisted data entry (CADE). Independent data entry into two separate computer files was done to

compare the two files for non-comparable entries so as to minimise coding errors. After the data were entered into a computer file, the investigator checked them over thoroughly for errors. Detected errors related to coding and transmissions were resolved. Data cleaning was done with the aid of a computer. This was an essential process that could identify respondent-related errors. Frequency or percentage distributions were created for the univariate analysis of nominal and ordinal-scale variables. In contrast, data on interval scale variables were summarized into tables and graphs in terms of the various statistics.

Quantitative Data Processing and Analysis: Phase One

The section on data processing and analysis discussed issues on data preparation. First, I described how data was prepared and presented and looked at the data analysis procedure for the quantitative phase. Then, I discussed the quantitative data analysis and followed it with that of the qualitative data analysis. Given the partially sequential dominant status-quantitative design used in this study, data analysis was done in two phases. The first phase had to do with the quantitative analysis whereas the second phase dealt with the qualitative analysis. Thereafter, I integrated the results from the three data sources (questionnaire, observation, and interview) to gain deeper understanding on students' learning strategies. Table 4 displays the statistical analysis procedure, assumptions for the analysis procedure and the analytical tools for the quantitative data analysis phase.

Table 4: Summary Presentation of Statistical Analysis Procedure for the Study

RQs	Instrument	Statistical Assumption(s)	Tools for Analysis
1	Questionnaire,	No assumption	Descriptive statistics: <i>Mean, standard deviation</i>
2	Questionnaire,	No assumption	Descriptive Statistics: <i>mean, standard deviation</i>
3	Questionnaire	No assumption	Descriptive Statistics: <i>mean and standard deviation</i>
4	Questionnaire	No assumption	Descriptive Statistics: <i>Mean and standard deviation</i>
Hyp	Instruments	Statistical Assumption(s)	Tools for Analysis
1	Questionnaire	Normality of dependent variable, data must not exhibit heteroskedasticity (variance of the DV must not depend on the IVs), there should be no multicollinearity among IVs (correlations between IVs should not be too high).	Multiple regression
2	Questionnaire	Normality of dependent variable, data must not exhibit heteroskedasticity (i.e. variance of the DV must not depend on the IVs), there should be no multicollinearity among IVs (i.e. correlations between IVs should not be too high).	Multiple regression

Table 4 Continued

3	Questionnaire	Normality of dependent variable, data must not exhibit heteroskedasticity (i.e. variance of the DV must not depend on the IVs), there should be no multicollinearity among IVs (i.e. correlations between IVs should not be too high).	Multiple regression
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Where *DV* = Dependent Variables; *IV* = Independent Variables; *RQs* = research questions; and *Hyp* = hypothesis

Requirements for Regression Analysis

Hypotheses one, two, and three required the use of inferential statistics to examine the relationships between the criterion and predictor variables. As a result, the models for the test (refer to page 63) and the necessary assumptions for running multiple regression have been presented.

The analysis for the hypotheses was aimed at helping to identify the explanatory variables (*teaching method, sex, student motivation, learning style, school type, and student status*) that best predicted and explained students' use of cognitive learning strategy. Before the test was done, I made sure that the testing did not violate the important assumptions necessary for regression analyses. These were normality of dependent variable, and multicollinearity. These criteria applied to all the tests in the other two hypotheses.

Data Normality

Data normality test is the first test which must be run before the data is processed based on the model of a study especially if the study’s purpose is inferential. For a, if the p value is greater than alpha ($p > .05$), the data is normally distributed. On the other hand, if the p value is less than alpha ($p < .05$), then the data is not normally distributed. Therefore, I ran a normality test on student learning strategies adoption score using the Kolmogorove-Smirnov and Shapiro-Wilk test. The test showed: $D(95) = 0.06, p = 0.341 > 0.05$ for cognitive strategy; $D(95) = 0.08, p = 0.217 > 0.05$ for meta-cognitive strategy; and $D(95) = 0.80, p = 0.192 > 0.05$ for resource management strategy. Since in all three outcome variables, the p value was greater than the chosen alpha level (0.05), I failed to reject the null hypothesis and concluded there was evidence that the data being tested were normally distributed. Table 5 shows the results on the test on normality for learning strategy use among Economics students for the pilot-study.

Table 5: Kolmogorove-Smirnov and Shapiro-Wilk Test for Normality of Student Learning strategies Adoption Score

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
COGNITIVE	.25	95	.246	.062	95	.341
METACOGNITIVE	.091	95	.102	.082	95	.217
RESOURCE MGT.	.006	95	.432	.75	95	.192

The explanatory variables in this study were derived from the literature. Demographic variables had been studied by Chang and Huang, (1999) Chen,

(2002), Griffiths (2003) and Alireza and Abdullah (2010) and mixed outcomes have emerged especially in relation to sex and learning strategy use. I did dummy coding for the categorical variables to create dichotomous variables.

Specifically, in this study, for school type, I coded public school= 0; and private school= 1. For sex, the dummy coding for male= 0; female=, 1, student status, boarder/hosteller=0; day student= 1, motivation, intrinsic= 0; extrinsic=1, teaching method, teacher-centred=0; student-centred=1, and learning style, visual=0; auditory=1; and kinaesthetic=2. Dummy coding of categorical variables is a procedure that enables comparison of a reference variable with other variables in a multiple regression analysis (Phellas, 2005). In fact, multiple regression can be set to use categorical IVs, but they must be dummy coded in order to do so (Minimax, 2008, p.65). If not, if a categorical variable is entered as an explanatory variable in the regression model, the analysis would treat the variable as a continuous variable and the result would be wrong (Miles & Shevlin, 2001).

Model Diagnostics

In order to avoid the violation of key assumptions for multiple regression analysis, the three models were diagnosed on homoskedascity, model specification, and multicollinearity. Separate explanations relating to each of the models have been provided. Table 6 illustrates results of the tests which warranted and gave meaning to the use of multiple regression for the study.

Table 6: Homoskedasticity, Model Specification, and Multicollinearity Assumptions for Multiple Regression

MODEL	Homoskedasticity	Model Specification	Multicollinearity
MODEL 1	chi2(1) = 3.75 Prob > chi2 = .0529	F(3, 657) = 1.21 Prob > F = 0.3054	Mean VIF = 1.17
MODEL 2	chi2(1) = 1.75 Prob > chi2 = .1860	F(3, 657) = 3.82 Prob > F = 0.0098	Mean VIF = 1.17
MODEL 3	chi2(1) = 3.1 Prob > chi2 = .075	F(3, 655) = 2.01 Prob > F = 0.1107	Mean VIF = 1.20

Model 1

The second column of Table 6 for model 1 shows the homoskedasticity test on cognitive learning strategy. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity under the null hypothesis that there is constant variance was run. So with the p-value of 0.0529 > 0.05 obtained, there is evidence to show that the model satisfies the homoskedasticity assumption necessary for multiple regression analysis. Hence, with this finding, the study concludes that the model is devoid of heteroskedasticity.

Still on model 1, the third column of the table shows the model specification test. The Ramsey reset test using powers of the fitted values was run

under the null hypothesis of correct specification and as observed, the F value were less than the critical value in the first model (cognitive: $0.3054 < 1.21$). The test result gives 95% assurance that the model is well specified and I failed to reject the null hypothesis of correct specification.

The last column of the table reveals the test results on multicollinearity. The test was run to ascertain possible problems with the data (Phellas, 2005). Multicollinearity occurs when several explanatory variables become highly correlated or when one explanatory variable is a linear combination of other explanatory variables causing estimation problems in multiple regression coefficients and other parameters. The Variance Inflation Factor (VIF) was used to determine multicollinearity. For that test, once the Mean Variance Inflation Factor (Mean VIF) < 10 , the model is devoid of multicollinearity. From Table 6, since the Mean VIF for the first model is $1.17 < 10$, that model is devoid of multicollinearity.

Model 2

As can be seen, the second column of Table 6 for model 2 shows the homoskedasticity test. The Breusch-Pagan/Cook-Weisberg test for heteroskedasticity under the null hypothesis that there is constant variance was run. So, with the p-value of $0.1860 > 0.05$ obtained, there is evidence to show that the model satisfies the homoskedasticity assumption necessary for multiple regression analysis. Hence, with this finding, the study concludes that the model is devoid of heteroskedasticity.

Still on model 2, the third column of the table shows the model specification test. The Ramsey reset test using powers of the fitted values was run under the null hypothesis of correct specification and as can be observed the F value for the meta-cognitive was less than the critical value: $0.0098 < 3.82$. The test result gives 95% assurance that the model is well specified and therefore I failed to reject the null hypothesis of correct specification.

The last column of the table reveals the test results on multicollinearity. The test was run to ascertain possible problems with the data (Phellas, 2005). Multicollinearity occurs when several explanatory variables become highly correlated or when one explanatory variable is a linear combination of other explanatory variables causing estimation problems in multiple regression coefficients and other parameters. The Variance Inflation Factor (VIF) was used to determine multicollinearity. For that test, once the Mean Variance Inflation Factor (Mean VIF) < 10 , the model is devoid of multicollinearity. Since the Mean VIF for the first model is $1.17 < 10$, the model is devoid of multicollinearity.

Model 3

As can be seen, the second column of Table 6 for model 3 shows the homoskedasticity test. Here again, the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity under the null hypothesis that there is constant variance was run. So, with the p-value of $0.075 > 0.05$ obtained, there is evidence to show that the model satisfies the homoskedasticity assumption necessary for multiple regression analysis. Hence, with this finding, the study concludes that the model is devoid of heteroskedasticity.

Still on model 3, the third column of the table shows the model specification test. The Ramsey reset test using powers of the fitted values was run under the null hypothesis of correct specification and as can be observed, the test showed that the F value was less than the critical value ($F < 2.01$). I therefore failed to reject the null hypothesis of correct specification.

The last column of the table reveals the test results on multicollinearity. The test was run to ascertain possible problems with the data (Phellas, 2005). Multicollinearity occurs when several explanatory variables become highly correlated or when one explanatory variable is a linear combination of other explanatory variables causing estimation problems in multiple regression coefficients and other parameters. The Variance Inflation Factor (VIF) was used to determine multicollinearity. For that test, once the Mean Variance Inflation Factor (Mean VIF) < 10 , the model is devoid of multicollinearity. Since the Mean VIF for the first model is $1.20 < 10$, the model is devoid of multicollinearity.

I could have as well used the tolerance test to determine multicollinearity. According to Phellas, (2005) tolerance measures which range from zero (no independence from other variables) to one (complete independence). The reason is that the tolerance test values of the explanatory variables, if closer to one, indicate that the variables are independent and therefore devoid of multicollinearity. However, I went in for the VIF instead to determine multicollinearity which is sine-qua-non for successful running of regression.

The questionnaire items (all closed-ended) were analysed statistically using STATA version 81.0 and supported by SPSS version 21.0. Descriptive

statistics (i.e. frequency counts, percentages, means, and standard deviations) were used to simplify the data for analysis. The .05 was used as the criterion for establishing statistical significance though the p-values were also compared with 0.10 and 0.01 levels of significance.

Phase Two: Qualitative Data Collection

I conducted qualitative case studies of three Economics teachers to gain thorough insight into the perspectives gained from the quantitative results from the statistical analyses at the quantitative phase. The qualitative data collection techniques involved classroom observations of three schools and semi-structured interviews of six SHS Economics students in six of the schools used for the study. In the subsequent discussion, a brief description of the case study sites, classroom observations procedures, and interview procedures is given.

Case Study Sites

I conducted observations in two publicly funded schools and one private school which have been represented with pseudonyms due to ethical reasons. These were Saako SHS, Koobi SHS and Tonto SHS. Saako SHS is a boarding public school located in Cape Coast metropolis. This school admits the best students in BECE and is considered one of the best schools in the Central Region of Ghana. The school has a history of educating many prominent Ghanaians who are connoisseurs in their own right across many fields. This school is much endowed with teaching learning facilities compared to others. Class sizes ranged from 45 to 60 students. The classrooms and school administration are housed in

different blocks. I observed three lessons taught by Mr. Abaalo, the third year Economics teacher, lasting at least 45 minutes.

Koobi SHS, on the other hand, is a day public school located in the Cape Coast metropolitan area of the Central Region. The school admits students of average ability and located in a lower economic zone of the region. Students here do not have the best of learning facilities to make use of and some of the students also have discipline problems. I observed three lessons taught by Mr. Okoto, the Economics teacher lasting at least 45 minutes. Class sizes ranged between 35 and 50 students. The classrooms and school administration are housed in separate detached buildings.

Tonto SHS is a private day SHS situated in the Awutu Senya East Municipal district of the Central Region. The school mostly admits students whose parents find it extremely difficult in their attempts to secure admissions for their wards in the top-notch schools. The parents are however parents with the ability to pay for tuition of their wards. The school lacks the necessary facilities that enhance student learning. Class sizes ranged from 12 to 30 students. The classrooms and school administration are housed under the same building together. I observed Mr. Chaap who teaches Economics in the whole school.

Classroom observation

Observations rendezvous were booked with three SHS Economics teachers at agreed convenient times. The classes were selected using typical case purposive sampling since I wanted to observe a typical SHS Economics lesson. The purpose of the classroom observations sessions was to provide additional data

relating to the teaching methods, corroborating findings from the quantitative data. I conducted brief pre-observation and post-observation conferences with the teachers concerned to enlighten them on the purpose of the study. The pre-observation conference required the teachers to state the objectives for the lesson, the anticipated student learning difficulties, how and what informed their use of a particular teaching method and finally, how they assessed students' understanding. The post-observation conference asked teachers if they had achieved the goals of the lesson, the challenges, successes and failures, and things that they would change in the future.

During the observations, I wrote field notes about the lesson introduction, the teaching methods, the tasks, and the challenges students faced vis-à-vis the questions asked in the class by the teacher. I used these data to rebuild classroom dynamics during data analysis.

Semi-structured Interviews

Six (6) students were selected purposively from each of the three schools and interviewed through a face-to-face session that lasted for about 45 minutes each. A qualitative study of this kind required critical in-depth analysis and reflection of thorough and true accounts. I used an audio recording device (Sony IC – 4-530-196-21(2) and field notes as the media for recording proceedings (Flick, 2014). I audiotaped each participant for a period of about 45 minutes using an interview schedule framed on the quantitative results relating to participants' experiences relative to the issues and the factors that they felt influenced their use of a particular learning strategy. In addition, I used probes to elicit more

explanations on teachers' teaching methods, students' learning styles and students' learning strategies among many other issues (Taylor & Bogdan, 1998).

Preparation for Data Analysis

I also did some editing with the qualitative data to determine whether the interviews have been properly conducted from the standpoint of using the correct forms and legibly recorded answers. I evaluated the interview session looking out for problems emanating from inadequate use of probes to obtain answers to open-ended questions; checks for multiple answers to single items, and I checked for vague answers or inconsistent responses among others. I also made sure that the interview schedule was complete (i.e. all items, especially those with "missing" responses, have coded values). If these 'critical' items were found missing, I privately contacted respondents.

Coding for the interview was very much like coding in thematic analysis. I developed a coding scheme that did not require a separate code for every respondent or case but that adequately reflected the full range of responses. The idea was to put the data in manageable form while retaining as much information as practicable. Once the data were coded and analysis was under way, it was easy to combine code categories for purposes of analysis.

Steps in Data Analysis

The qualitative data (observation and interview) were analysed thematically following the steps described by Braun and Clarke (2006, p, 82): (1) being familiar with the data, (2) generating initial codes, (3) searching for themes,

(4) reviewing themes, (5) defining and naming themes, and (6) producing the report. These steps are described below.

Familiarizing with the Data

First, I familiarized myself with the observation and interview data I collected. With my knowledge about the data, I came to the analysis stage. With my initial analytic interests or thoughts on the data, I put myself into the data by being familiar with the depth and breadth of their content. This I did by ‘repeated reading’ of the data, and searching for meanings and patterns. I read through the entire data set at least once before the coding with a view to identifying possible patterns. During this phase, I marked the issues for the coding. With this achieved, I began the more formal coding that defined the entire analysis process.

I dealt with verbal data from the interviews and therefore I transcribed the spoken words into written form of discourse analysis to conduct the thematic narrative analysis (Jefferson, 2004). I used, like most conversation analysis, the system of transcription notation due to my desire to capture succinctly even the context or aura in which respondents gave their responses. The transcripts were thus meant to provide detailed version of the complex nature of interaction between me and the interviewees (Jefferson, 2004). The transcription process though cumbersome, afforded me the opportunity to familiarize myself with the data (Riessman, 1993) since according to Bird (2005, p. 227), it is “a key phase of data analysis within interpretative qualitative methodology”. In the same vein, Lapadat and Lindsay (1999) recognised it as an interpretative act, where meanings

are created, rather than simply a mechanical one of putting spoken sounds on paper.

At a minimum, I ensured that rigorous and thorough ‘orthographic’ transcript – a ‘verbatim’ account of all verbal utterances of students were captured in the transcript, thereby ensuring the transcript retained the needed data from a verbal account perspective, and in a way in which it was ‘true’ to its original nature. The transcription afforded me the opportunity to develop a far more methodical understanding of the data through it. Furthermore, the close attention with which I transcribed the data facilitated my close-reading and interpretative skills to warrant an apt analysis of the final data (Lapadat & Lindsay, 1999).

Generating Initial Codes

Generation of codes followed after familiarizing with the data and creating initial list of ideas about what was in the data and what was interesting about them. This phase involved coming out with initial codes from the data. Codes identify a feature of the data (semantic content or latent) that appears interesting to the analyst, and refer to “the most basic segment, or element, of the raw data or information that could be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p. 63). According to Miles and Huberman (1994), the process of coding is part of analysis since one may be organising data into meaningful groups (Tuckett, 2005).

I used the manual coding by writing notes on the texts. I also analysed the data by using highlighters or coloured pens to indicate potential patterns to identify segments of data. I initially identified the codes, matched them up with

data extracts that demonstrated those codes ensuring eventually that all actual data extracts were coded, and then collated together within each code. I did this by copying extracts of data from individual transcripts and collating each code together in separate computer files. I coded for as many potential themes/patterns as possible since I did not know what may be interesting later. Again, I coded extracts of data inclusively by keeping a little of the surrounding data. I did the best also to retain accounts which departed from the dominant issues in the coding analysis process.

Searching for Themes

I drew themes in this phase to allow for interpretative analysis relative to the arguments about the phenomenon under study (Boyatzis, 1998). This stage began when all the data had been coded and collated, and a long list of the different codes identified across the data set. The focus here was on the analysis at a broader level of themes, rather than codes, involved sorting different codes into potential themes, and collating all coded data extracts within the identified themes. This was when code analysis began in order to obtain an overarching theme.

I used visual representations such as tables and mind-maps to help sort the different codes into themes on separate pieces of paper and organising them into theme-piles (Braun & Wilkinson, 2003) of students' talk about what influenced their learning strategies. In the process, some initial codes were subsumed into the main themes while redundant ones were discarded. At this stage, a miscellaneous category was created to house the codes which did not belong or identify with the

themes. Those which perfectly fitted into the themes were accepted and called themes.

Reviewing Themes

This phase was where I tried to thematise and refine participants' responses which were not really themes (e.g., where there were not enough data to support them, or the data were too diverse), and finding responses which could be collapsed into other themes due to their relatedness. I further broke down other themes into separate themes in line with Patton's (1990) dual criteria for judging categories (i.e. internal homogeneity and external heterogeneity). This was where I took steps to ensure that data within the emerging themes gelled meaningfully together with clear identifiable themes.

There were two levels of review of the themes. The first level involved a review at the level of the coded data extracts. This meant reading the collated extracts for each theme and considering whether they appeared to form a coherent pattern. I moved to the next level if candidate themes formed coherent pattern. On the contrary, candidate themes which did not gel, needed further consideration to unravel inherent possible problems in which case the theme was reworked to create a new theme. If candidate themes adequately captured the contours of the coded data 'thematic map' I was satisfied and so moved on.

Level two involved a similar process, but in relation to the entire data set. At this level, I considered the validity of individual themes in relation to the data set, but also found out whether the candidate thematic map 'accurately' reflected the meanings evident in the data set as a whole. During this phase, I re-read the

entire data set for two purposes: to ascertain whether the themes ‘worked’ in relation to the data set and second to code any additional data within themes that had been missed in earlier coding stages. The process of review continued until a thematic map was created.

Defining and Naming Themes

This phase began after I had obtained a satisfactory thematic map of my data. I defined and further refined the themes that aided the analysis. The ‘essence’ of what each theme was about was identified. I went back to the collated data extracts for each theme, and organised them into coherent and internally consistent account with their accompanying narrative. I did not only paraphrase the content of the data extracts, but also identified the interesting things about them. For each individual theme, I conducted a detailed analysis by identifying the ‘story’ each theme carried and how it fitted into the broader overall ‘story’ told in the data relative to the research questions. As part of the refinement process, I identified whether or not a theme contained sub-themes (themes-within-a-theme). By the end of this phase, I had clearly defined what the themes were or were not. This was evaluated by describing whether the scope and content of each theme fitted in a couple of sentences.

Producing the Report

This was basically the write up stage which followed the defining and naming of themes stage in the process of analyzing data. It was imperative for the analysis to be concise, coherent, logical, non-repetitive, and interesting. The write-up therefore provided sufficient evidence of the themes within the data. I

chose particularly vivid examples which captured the salient issues without unnecessary complexities. I embedded the thematic extracts within the analytic narrative that told the story. Also, I made the analytic narrative go beyond the description of the data thereby making arguments in relation to the research questions. Table 7 illustrates the procedure for qualitative analysis as regards the research questions.

Table 7: Summary of Analysis Procedure for Qualitative Data Relative to the Research Questions

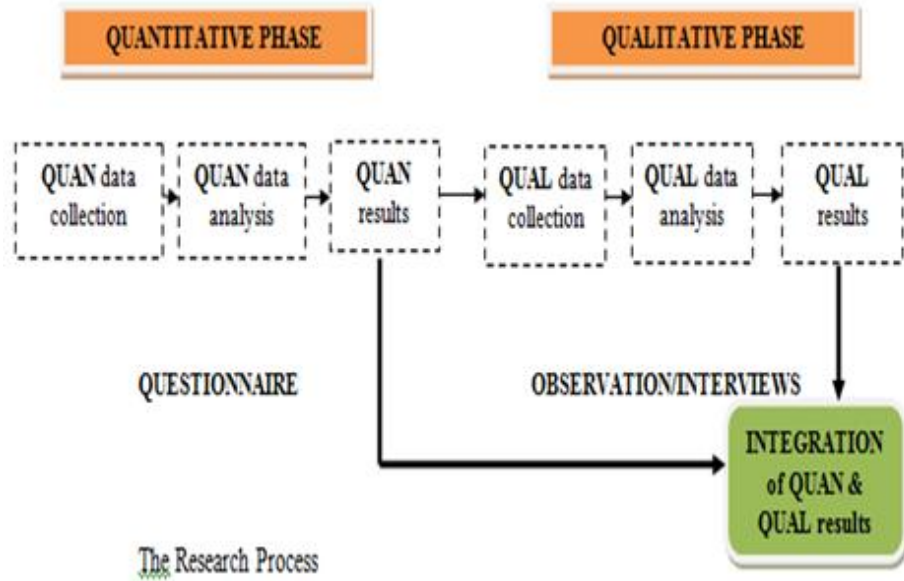
RQs	Instruments	Statistical Assumption(s)	Procedure for Analysis	
1	Observation, Semi-structured interviews	No assumption	<i>Content analysis,</i>	<i>Thematic narrative analysis</i>
2	Semi-structured Interviews	No assumption	<i>Thematic analysis</i>	<i>narrative</i>
3	Semi-structured Interviews	No assumption	<i>Thematic analysis</i>	<i>narrative</i>

Integration

Integration is the “relationship between two or more methods where the different methods retain their paradigmatic nature but are inter-meshed with each

other in pursuit of the goal of “knowing more” (Moran-Ellis, Alexander, Cronin, Dickinson, Fielding, Sleney, *et al.*, 2006, p. 51). In this study, integration occurred after emergence of qualitative themes which provided exploratory evidence to the dominant quantitative results (Hayes, Bonner & Douglas, 2015). Integrating both qualitative and quantitative data into a coherent whole was done while consciously minimizing threats to validity. I used large sample and reliable instruments during the quantitative phase and chose significant quantitative results to follow up sequentially on in the qualitative phase. I selected the same individuals for the qualitative follow-up from the quantitative phase and analysed same (qualitative data) independently.

I did this by first using the outcome of the qualitative data to provide further explanations on the outcome of the quantitative data. At the end of the exercise, I combined both data sets such that the issues of interest were deeply understood. In sum, the three data sets (questionnaire, observation and semi-structured interviews) were analyzed independently in line with the research questions and hypotheses. At the conclusion of the analysis the quantitative and qualitative results were integrated to explain how the independent variables (school and student personal factors) predisposed Economics students to learning strategies used. The process for both quantitative and qualitative phases is illustrated in Figure 6.



Where *QUAN* = Quantitative and *QUALI* = Qualitative

Figure 6. Research process for the quantitative, qualitative phases, and integration of data for the study. **Source: Author, 2016.**

Table 8 shows the schedule of activities with dates on which the activities were carried out in a quest to generate data.

Table 8: Data Collection Activities with Dates, and Duration within which these were Carried out

Dates	Activities	Schools	Duration
Quantitative Data Phase			
25 th – 29 th Sept., 2017	Distribution and collection of questionnaire	A, B, C, D, E, F, G, J, and K	One week
2 nd – 6 th Oct., 2017	Distribution and collection of questionnaire	L, S, P, T, O, R, and V	One week
9 th – 13 th Oct., 2017	Distribution and collection of questionnaire	M, N, H, I, Q, U, W, and x	One week

questionnaire
 16th – 22nd Oct., Analysis of quantitative data One week
 2017

Qualitative Data Phase

23rd – 27th Oct., Observation B, D, H, M, P, and One week
 2017 sessions/ U
 Interviews

30th Oct. – 3rd Nov., Transcription of interview data One week
 2017

6th – 10th Nov., Analysis of qualitative data One week
 2017

13th – 24th Nov., Integration of quantitative and Two weeks
 2017 qualitative data and discussion of
 results

The ensuing sessions discussed credibility of qualitative data and ethical issues which were considered.

Credibility of Qualitative Data

A number of actions were taken to ensure credibility of the qualitative data. With the observation, two scorers observed the class at a particular time to ensure inter-rater reliability. First, the observations were compared to iron out differences in what was observed and rated. Again, to ensure credible and dependable findings from the interview, I used Guba and Lincoln’s (1989) framework for trustworthiness. Using this framework, first, I used semi-structured interview data to explain further the evidence provided in the questionnaire. Second, I used the audio recording and notes and transcripts to cross-check to confirm correct data interpretation.

In addition, I used member checking and external audit (Creswell, 2008) to ensure that the findings were correct and up to date. Member checking involved sending transcripts to some participants in the study to check for accuracy of the information. External auditors involved the thesis supervisors who read the final document to check on research methods, credibility, themes, interpretations, and bias issues (Creswell, 2008). In the case of data triangulation, I made use of data from multiple sources (i.e. from survey data, classroom observation data, and interview data). These data provided information and evidence to support each theme.

My unfamiliarity with the SHS terrain went a long way to even enhance my objectivity as a researcher in the observation and the interviews. Being an outsider-researcher comes with costs and challenges. I was privileged to be conducting a study among a fairly unfamiliar population given the possible adverse effects of familiarity on objectivity; and in curbing biases due to researcher prior knowledge. Bearing these in mind, I conducted the research in a manner devoid of exploitative involvement (Shacklock & Thorp, 2006). I played my role well as required by ethics of research in such a way that objectivity was never compromised in this study. The ensuing section discussed some ethical issues which were complied with

Ethical Issues

There are numerous issues that were given attention with respect to research ethics since a violation of any of these might not be acceptable. Smith (1995) explained it stating that the “understanding of ethics is not just a study of

theoretical knowledge, but includes an understanding of the applicability of ethics to real world situations” (p. 480). Ethical considerations are rules of conduct that govern a professional group. In effect, ethical issues are, “principles and guidelines that clarify the conditions under which the research would be conducted” (Oates, Kwiatkowski & Coulthard, 2010, p. 4). Some of these important ethical issues related to the research design, data collection (quantitative and qualitative), and some eight principles according to Schnell and Heinritz were discussed.

Since mixed methods research combines quantitative and qualitative research, considerations need to be given typical ethical issues that surface in both forms of inquiry. Nazeer (2006) noted that, “issues of ethics surrounding research design, implementation and reporting seem simple” (p. 120) but they are not in reality. Quantitative issues relating to obtaining permissions, protecting anonymity of respondents, not disrupting sites and communicating the purposes for the study, avoiding deceptive practices, respecting vulnerable populations, being aware of potential power issues in data collection, respecting indigenous cultures, not disclosing sensitive information, and masking the identities of participants. Creswell (2011) has discussed the following ethical issues in mixed methods designs.

In an explanatory design, researchers may use a large quantitative database for the initial phase of the research. In order to follow up on these individuals with qualitative interviews, there needs to be an identifier linked to the quantitative database. Some individuals may not want their quantitative data

released. Using names without permission constitutes an unethical practice in mixed methods research.

Ethical issues related to vexing questions regarding privacy, confidentiality, informed consent, accountability, and so on are critical for any research. In order to address such issues, a research design should anticipate the array of ethical challenges that may occur (Marshall & Rossman, 2006). According to Northway (2002), all aspects of any research have ethical implications. To Flick (2014), issues of ethics are very essential in research and more especially in social sciences. He contends that researchers need to follow laid down codes of ethics in order to regulate and manage the relationships between the researcher and the research to prevent any harm that is likely to befall participants directly or indirectly. In the view of Schnell and Heinritz cited in Flick (2014, p. 49), ethics in research seek to address the question, “which ethically relevant influences the researcher’s intentions could bear on the people with or about whom the researchers do their research?” Schnell and Heinritz also identified eight basic principles:

1. Researchers have to justify why research about their issue is necessary at all;
2. Researchers must be able to explain what the aim of their research is and under what circumstances subjects participate in it;
3. Researchers must be able to explicate the methodological procedures in their projects;
4. Researchers must be able to estimate whether their research acts will have ethically relevant positive or negative consequences for the participants;

5. Researchers must assess the possible violations and damages arising from doing their project – and be able to do so before they begin the project;
6. Researchers have to take steps to prevent violations and damages identified according to principle 5 above;
7. Researchers must not make false statements about the usefulness of their research;
8. Researchers have to respect the current regulations of data protection (Flick, 2014, p. 49).

In carrying out this study, an ethical clearance to conduct the study was obtained from the Institutional Review Board (IRB) of the University of Cape Coast. The code of ethics of UCC in fact requires that research procedures be based on informed consent and permissions and securing participants' voluntary informed consent. In other words, participants in the study ought to approve and decide to take part considering the information they are required to provide to the researcher (Flynn & Goldsmith, 2013, p. 10). In consonance with this, a participant consent form clarifying issues on confidentiality, statement of purpose of the study with details on how and where data were to be presented was issued. Participants were provided with an information sheet and if they consented to take part in the study, they were asked to sign the consent form since it has been observed that it is unethical to collect information without the knowledge of respondents, and their expressed willingness and informed consent. Therefore, the principle of respect for participants was adhered to. The participants were assured they could withdraw from partaking in the study at any time they deemed fit.

Pseudonyms were allocated to all transcripts to ensure confidentiality. All data were stored securely during the research process.

Before data collection, permission was sought from the authorities of all participating schools in the region. Through that, access was obtained and students were briefed on the aims of the study, the procedures for the study (sampling, collecting and handling of the data, and how participants could benefit from the study, among others). They were also informed about the target group and how they were selected to get the required data.

Gaining Access and Entry

Research is an intervention into a social system and it is often perceived as a destructive factor for the system to be studied to which it reacts defensively (Anane, 2014, p. 167). Wolf (cited in Flick, 2014) contends that, there must be a mutual receptive relationship between the research and the institutions or social systems to be researched and that exchanging a whole lot of information on entering the research field does not reduce such postures. Instead, “it leads to increasing complexity in the process of agreement and may lead to increased immune reactions” (p. 160). Thus, both sides generate myths that are nursed by increased exchange of data, and in some cases, relationship between the researcher and male and female participants. A study is usually seen as an intrusion into the fabric of the school to be studied. Most institutions perceive research as a disturbance and a disruption of its routines, with no immediate or long-term benefits at sight, especially, when the researcher is from outside the institution (Flick, 2014; Josselson, 2007).

To Flick, research projects sometimes unsettle institutions and in response, the institutions also put real impediments in the way of the researcher. There was therefore a need to establish rapport, reciprocity, and maintain professional reputation and credibility with gatekeepers and participants. My background as a teaching practice supervisor, coupled with my familiarity with a number of Economics teachers in the schools facilitated my access. Also, the personal alliances I fostered over the years with some heads and colleague teachers over the years created fertile grounds for my access and entry to the participating schools. The acquaintances made my work easier in contacting those who mattered in giving the go ahead for the study to be carried out.

Assurance of Confidentiality and Anonymity

Guarding the confidentiality and anonymity of participants in any research project is very crucial (Dhurup, 2015; Anane, 2014, p. 165). There is the need therefore to safeguard and guarantee the identity of respondents. Therefore, I took the necessary steps to ensure anonymity and confidentiality by concealing details such as names, locations, identification, and admission numbers of students (Flick, 2014; Flynn & Goldsmith, 2013; Josselson, 2007; Rossman & Rallis, 2003). It is necessary to gain the trust of participants that data being collected would be used for the purpose(s) to which they have consented and readers and those outside the study would not be able to identify them from the study's reports.

My aim was to satisfy all these requirements on the measures of survey data collection in this study. Every effort was made to keep confidentiality of

participants as well as the data collected in the study. Issues bothering on respondents' privacy were critical for the success of the study. Ethics required that I responded with sensitivity to all data collected and discussed at each stage of the study and this was done. Having discussed the ethical issues in the data collection, I now return to the chapter summary.

Chapter Summary

This chapter discussed the research methods used to accomplish the objectives of the study. These include the research philosophy and how it informed the choice of the design, procedural issues in sequential explanatory design, a description of the study area and the population.

Also, discussed the chapter were the sample and sampling procedure, the development of the data collection instruments (questionnaire, observation, and interview schedule), description of the actual data collection process and role as a researcher. Furthermore, data credibility, ethical issues pertinent to mixed methods design, and data collection and analysis in quantitative and qualitative research were discussed. Preparation and processing of data for analysis for both research phases were also presented. Finally, the integration of quantitative and qualitative data for the purposes of making deep inferences from analysis was discussed.

CHAPTER FOUR

RESULTS AND DISCUSSION

Overview

The study investigated teaching methods and learning strategies of Economics students in SHS in the Central Region of Ghana. The purpose was to describe and explain how background factors (personal and environmental) factors influence learning strategy use among SHS Economics students in the Central Region of Ghana. The previous chapter described the research philosophy, design, participants, and methods used to collect and analyse both quantitative and qualitative data to address the purpose of the study. This chapter presents and discusses the outcome of the data analysis in an effort to answer the research questions. The first section of the chapter presents a discussion on the biographic data of respondents. The quantitative analyses were done based on the questionnaire return rate of 92.7%.

Background Data on Respondents and Sites

Biodata of Respondents

Background characteristics of Economics students such as school type, sex, student status, and students' motivation for studying Economics were investigated in the study. These are shown in Table 9.

Table 9: Biographic Data of Respondents (n= 668).

Variable	Frequency	(%)	Total (%)
School type:			
Public School	496	74.3	668(100)
Private School	172	25.7	
Sex:			
Male	334	50	668(100)
Female	334	50	
Student Status:			
Boarder/hosteller	421	63	668(100)
Day student	247	37	
Reasons for studying Economics:			
Career/employment purpose	296	44.3	
Parental advice	74	11.1	668(100)
Interest in the subject	105	15.7	
Obligated because of my programme choice	193	28.9	

An important data in Table 9 worthy of note relates to students' motivation to study Economics. It shows clearly that the majority of students 296 (44.3%) chose to study Economics because of career or employment considerations. By implication, a lot of students were studying Economics because of the hope to secure jobs for themselves after their studies. Closely

following those who studied the subject for purposes of securing jobs were those who were obliged to study Economics, because of the programmes they chose. This group comprised 28.9% of the respondents. Perhaps, such students would not have offered to study Economics but for their programme choices. The third category of students 105 (15.7%) were those who indicated they are studying Economics because of their personal interest in the subject. Lastly, it is interesting to note that 11.1% of the students were studying Economics based on the advice of their parents.

The inference is that, 15.7% of the students were motivated intrinsically to study Economics. In contrast, the majority (84.3%) were motivated extrinsically to study Economics. For such students, the reasons for which they studied Economics found expression in their future career aspirations and were tied to parental advice, and the choice of their programmes. Specifically, 28.9% were categorical in stating that they were ‘forced’ to study Economics due to the programmes of study they had chosen (i.e. General Arts, Home Economics, and Business). The implication is that given the option, they may not choose to study Economics. This information is crucial in this study given the fact that one’s motivation to study a particular subject has been shown in the literature to influence learning strategies of students (cf. Stoffa, Kush, & Heo, 2011; Zimmerman, 2011; Sadighi & Zarafshan, 2006).

Profile of Participating Schools for the Observations

The three schools consisted of two public and one private school in the region. One of the public schools (Saako SHS) is considered one of the top

schools as far as general performance at the WASSCE was concerned. The second one (Tonto SHS) was among the least performing schools whereas the private school (Koobi SHS) represented one of the schools with less infrastructure in the region. These schools, reminiscent of the character of schools within the region, were purposely selected to provide a clear picture of what pertains in schools based on the school characteristics.

Profile of Interview Participants

Three males and three female students were purposively selected from the participating schools for the interviews. They comprised three boarders and three day-students with an average age of 18 years who were drawn from the General Arts, Business and Home Economics programme areas. Four of these students were from the public schools whereas two were from the private schools. In order to conceal the identity of the interviewees, pseudonyms such as ES1, ES2, ES3, ES4, ES5, and ES6 were used for all of them. Participants ES2, ES3, and ES4 were day students while ES1, ES5, and ES6 were boarders.

The subsequent sections of the chapter are devoted to presentation and discussion of the main data. This is done according to the research questions which were posed at the beginning of the study.

MAIN DATA

Research Question 1

Which teaching methods are used by SHS Economics teachers in the Central Region of Ghana?

The researcher wanted to find out from students as regards what they saw their Economics teachers do in class since they were the consumers of classroom interactions. In effect, I wanted to investigate the teaching methods adopted by Economics teachers using descriptive statics (Mean/standard deviation). Three methods (questionnaire, observation, and interviews) were used to generate data in this regard. The students were asked to indicate by ticking some activities that teachers engaged in the classroom on a five-point Likert type scale ranging from ‘Always’ (4) to ‘never’ (0). The last item requested students to describe the teaching methods adopted by their teachers. Table 10 depicts the descriptive statistics generated.

Table 10: Distribution on Teaching Methods of Economics Teachers (n=668)

Items	RESPONSE RATINGS					N(%)	M	SD
	4 N(%)	3 N(%)	2 N(%)	1 N(%)	0 N(%)			
Active engagement	240(35.9)	127(19)	195(29.2)	64(9.6)	42(6.3)	2.7	1.2	
Problem-solving	231(34.6)	161(24.1)	178(26.6)	46(6.9)	52(7.8)	2.7	1.2	
Uses brainstorming	277(41.5)	128(19.2)	137(20.5)	47(7)	79(11.8)	2.7	1.4	
Uses discussions	245(36.7)	111(16.6)	136(20.4)	71(10.6)	105(15.7)	2.5	1.5	

Uses lecture/does all talking	95(14.2)	124(18.6)	12(1.8)	207(31.0)	230(34.4)	1.3	1.4
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Always =4, Often=3, Sometimes=2, Rarely=1, Never=0

Table 10 shows individual item ratings on the teaching methods of Economics teachers. As can be seen from the table, a majority of students 367 (54.9%) generally felt teachers often actively engaged them during Economics lessons (M=2.7; SD=1.2). On the matter of teacher assignment of tasks requiring analytical thinking and problem-solving, approximately 392 (58.7%) of students indicated that they were often assigned tasks that required analytical thinking and problem-solving (M=2.7; SD=1.2). Again, the majority of students 405 (60.7%) intimated that their teachers often helped them to learn Economics through brainstorming in a non-threatening atmosphere of learning (M=2.7; SD =1.2). Further, approximately 356 (53.3%) of the respondents stated that teachers used the discussion method and these responses yielded a mean of 2.5 and Standard Deviation of 1.5.

Lastly, the majority of students 437 (65.4%) were of the opinion that teachers rarely used lecture method (M=1.3; SD= 1.4), which is student-centred method. This shows that the majority of students felt their teachers used student-centred rather than teacher-centred methods. It is obvious from the foregoing results that in terms of the methods that teachers used in teaching Economics, problem-solving (a student-centred strategy) came first, followed by brainstorming (student-centred), and discussion. Table 11 illustrates the frequency and percentages on the methods used by teachers.

Table 11: Distribution of Teaching Methods as Described by Economics Students

Teaching Method	Frequency	(%)
Student-centred	427	63.9
Teacher-centred	241	36.1
Total	668	100

In sum, with regard to research question 1, the quantitative data showed that in students' opinion, their teachers used student-centred teaching methods where students were actively involved and were often assigned tasks that required analytic thinking. By inference, students said teachers often used discussion and brainstorming where they only assumed the role of facilitators. The observation and interview results which are related to research question 1 are presented and discussed in the ensuing section.

Observation Results

As noted in Chapter Three, the purpose of the observation was to give me a first-hand field experience regarding teaching methods of Economics teachers to actually ascertain if the outcome of quantitative data supported reality on the field. The results from the observation (a non-participant observer) showed that a majority of the teachers adopted lecture method as the method of teaching, leaving little room for students' voices to be heard. For the three consecutive observation sessions, I got the impression that teachers still perceived teaching as a mode of transferring knowledge from a connoisseur to less experienced persons.

For instance, the following excerpt succinctly represents what transpired during the observations at Saako SHS. One of such sessions on the topic, *Foreign aid and National development* began at 9:10 am without statement of purpose for the lesson and the sharing of objectives ended in a kind of ‘one-man’ show. The teacher attempted to present an overview of the lesson and also presented points for the class discussion by first underscoring the importance of foreign aid to national development of the Ghanaian economy. The teacher adopted teacher-centred approach since about 75% of the discussions emanated from him. In the use of learning resources, the teacher did not use any extra resource apart from the normal white board, marker and duster. He appeared not also to have prepared students’ minds, prior to the lesson relative to pre-reading on the topic. There was more class discussion on the points raised even though the teacher asked intermittently formative assessment questions to assess students’ learning progress vis-à-vis the lesson for the day. No audio-visual aids were used but the teacher gave a relevant written assignment.

On the method of teaching, most of the teachers whose classes were observed used the lecture method though some of them especially at Saako and Koobi SHS made efforts to make the class interactive through questions with little success since students were not stimulated enough to be actively engaged. I made this observation particularly with the private school for all the three sessions. The questions the teachers posed afforded students only little chance to interact with them. The approaches teachers used in general for the three schools (Saako, Tonto SHS, and Koobi SHS) did not allow for brainstorming and collaborative learning.

Two of the teachers (at Koobi and Saako SHS) did not relate the subject matter to practical examples. At Tonto SHS, on the topic, '*Money and banking*' the teacher tried to explain concepts associated with the topic without making it practical for students.

On student-teacher interactions, the teachers observed in all the three schools did not encourage students' questions. This contributed to students' passivity. Somehow, some of the teachers tried to maintain students' attention. They scolded when they had to and reinforced students positively when they needed to do so. The observed teachers constantly asked oral questions in a quest to monitor students' attention. They responded to students' questions though sometimes not to their satisfaction. They also responded to non-verbal cues and this explained why one of them could not initially spot two students who tried to sleep. In that particular class, the teacher did not take any step to encourage difficult questions though he, on two occasions tried to ask probing questions in order to elicit the right answer.

Overall, I observed that in all the nine sessions, the teachers used teacher-centred methods. The traditional methods of teaching were used by almost all the three teachers with little activity of students. At Tonto SHS specifically, all the three classes observed were very boring as some of the students expressed this feeling through their facial demeanour. From the observation, it became obvious that teachers used lecture or teacher-centred methods with occasional student interactions via questions.

Interview Results

The interviews on the contrary revealed a major theme which suggested that teachers used student-centred methods where students were actively engaged in lesson discussions. In an answer to a question on the activities they often found themselves engaged in class, one student had this to say, *'Yea, he gives us group work which engage us a lot, assignment and other stuff so we always go and research on it. We engage also in the classroom discussions and all these activities help us to learn'* (ES1). A majority of the students intimated that they liked their teachers teaching method because it helped them to learn better. For instance, a student said, *Errm, sir... they teach us and if we don't understand, maybe a point he has reached, he explains it and at times too he asks us to explain. So it is like the teacher-student relationship* (ES1). Still on the same teaching method, one of them said, *... we all do the talking. At times, we challenge the issues so we also talk* (ES2). The same interviewee stated,

Yea, he gives us group work which engage us a lot, assignment and other stuff so we always go and research on it. We engage also in the classroom discussions and all these activities help us to learn (ES2).

Clearly, the view was that their teachers' teaching methods were okay for them except one who had this to say:

'Our teacher, excuse me to say, he is not serious sir. He comes to class and crack jokes. Sometimes, we spend all the time telling stories. Sir, I will say it if nobody says it. All of us are aware about this. We have complained to the headmistress on two occasions

and she has promised to talk to him. I haven't seen any improvement' (ES5).

This feeling was expressed by one of the interviewees, ... *for me, I think it's okay. What he is doing is okay for me. He compares notes from other books and gives it to us.* For the students, the idea of a teacher seen to transmit knowledge never crossed their minds perhaps because they didn't want to unduly expose the 'wrongs' of their teachers in respect of their teaching. They saw their teachers not as the mostly long-held view that teachers are the embodiment of knowledge and that they did all by themselves in class. The only contrary view was expressed by a participant from a private school. The interview data appear to contradict what was really observed in the classroom.

Integration of Data

For the first research question on teaching methods, the findings from the quantitative data did not support findings from the qualitative data. The quantitative data showed that teachers generally used student-centred methods in teaching Economics whereas the observation revealed otherwise. However, the interviews corroborated the quantitative findings, that teachers used student-centred methods. This perhaps is because students did not want to 'give their teachers out' and only wanted to shield them from any wrong-doing.

This finding point to the fact that SHS Economics teachers in the Central Region do not use traditional teacher-centred methods where all learnt information emanates from the teacher. This actually contrasts the findings of Nazeer (2006) in the Maldives that Economics teachers in the elementary school

were accustomed to the traditional teaching method of giving students information was their preferred method of teaching. Nazeer in that study argued that teacher-centred method was effective for delivering and controlling the flow of a lesson content. Of course, that study was conducted in the Maldives, a different context from that of Ghana. Based on the observation finding in this study, one may not be wrong to suggest that some teachers are still struggling to depart from the traditional method of teaching to modern-based methods which make the learner the nucleus of learning.

McGee and Penlington (2001) investigated the processes of teaching and learning to identify what teachers do in classrooms, and the effect of their actions on students and their learning strategies and found that teachers who actively engaged students in the classroom tended to nurture students to use meta-cognitive learning strategies (McGee & Penlington, 2001).

Overall, the quantitative data showed that teachers 427 (63.9%) used student-centred methods characterised by active student engagement, discussions, and giving of assignments requiring analytical skills. However, 241 (36.1%) of the students suggested that teachers used teacher-centred methods. The quantitative data confirmed the interview findings though the observation did not.

Research Question 2

Which is the dominant learning style adopted by SHS Economics students in the Central Region of Ghana?

Quantitative Results

This research question sought to find out about the dominant learning styles students adopt in learning. Students were requested to indicate (through ticking), the most preferred learning style or the most used medium of acquiring information in the process of learning. Frequencies and percentages were used to summarise and describe the dominant styles of Economics students. Table 12 illustrates the data that was generated for this purpose.

Table 12: Descriptive Statistics Showing Economics Students' Preferred Learning Styles (N=668)

Learning style	Frequency	(%)	M	SD
Visual	170	25.4	1.64	.34
Auditory	233	34.9	3.08	.59
Kinaesthetic	265	39.7	3.24	.96

Inferring from Table 12, majority 265 (39.7%) of the respondents chose kinaesthetic learning style (M=3.24; SD=.96) as their most preferred learning style followed by 233 (34.9%) students who indicated they preferred the use of auditory style (M=3.08; SD=.59) in acquiring information. Only 170 (25.4%) said they used visual means (M=1.64; SD=.34) to acquire information. It generally implies that the majority of the Economics students preferred to learn by carrying out physical activities (say being asked to write something on the board) rather

than listening to a lecture or watching demonstrations. It is a style where students want to be actively engaged in an activity or the other in order to learn. Auditory was the next style which Economics students preferred to use. This category of learners depends on hearing and speaking as the main way of learning. They prefer to hear what is being said in order to understand and may have difficulty with instructions that are written. The last style which formed the minority (25.4%) relied on listening input such as conversation to sort through the information that is sent to them in order to acquire or solve a problem. So, it is clear that most of the Economics students preferred learning through hands-on activities and therefore liked to express their learning best through projects and presentation of assignments. Sequentially, results from the interview data have been analysed.

Interview Results

On the issue of their learning styles, most of the students (ES2, ES3, ES4, and ES6) said they preferred the kinaesthetic learning style. This style found expression in their submissions that they learnt better when they were asked to do something rather than listen to someone. Some of them also said that they understood things better in class when they were asked to participate in activities such as role-play, group presentations, among others. This succinctly expressed the feeling on the learning style by an interviewee, ... *sir, normally I like to learn by doing something; because when you do something, you don't easily forget. It is better than seeing or hearing it from someone* (ES2).

This was followed by one of the students who intimated that she preferred listening rather than hearing as a way of acquiring information. She said whenever the teacher gave instructions, she learnt and remembered things better when she heard rather than seeing them. She said, *I want to hear things to remember them so seeing alone don't help me* (ES1).

The last person, in an emphatic and reflective manner said he wanted to see things physically as a means of acquiring information. In these words, he intimated, *Sir, most of the time, if I see the stuff, I remember better* (ES5). He added further, *'I like to learn or acquire knowledge through seeing and doing'*.

For me, I think learning by doing creates opportunities to nurture talents, promotes creativity, and kill learner passivity. Once teachers provide students with the opportunities, they are likely to maximise learning. Even though the use of a particular learning style is not mutually exclusive as an individual could use more than one style, the dominant style of students in the region appeared to be the kinaesthetic style. The ensuing section provides synthesis of results from both quantitative and qualitative procedures.

Integration of Results

On the current research question, both the questionnaire and interview data found that the main learning style used by Economics students in the Central Region was the kinaesthetic style which engendered active engagement of students in the learning process. Kinaesthetic learners are ones described as active learners who understand lessons best by participating actively (Fleming, 1995). Most of the students indicated that they preferred to acquire information through

'doing' things rather than being rendered inert in the learning process. When students prefer to use this style, it becomes possible for them to be active even in the face of virtual classrooms. This can be achieved through assignments, projects, presentations which may not depend so much on a face-to-face encounter of students with teachers.

This outcome concurs with the claim of Fleming that as a teacher, one's best option is to use a variety of teaching techniques to give all students the best chance to succeed since learners possess a dominant or preferred learning style. In their submission, Ikitde and Edet, (2013) noted that some people have mixed and evenly balanced blend of the three types: visual, auditory and kinaesthetic.

Most of the students were of the view that they learnt things better when they were asked to do something and that they enjoyed. Some said they preferred to participate in class instead of sitting under the lecture of a teacher. Kinaesthetic learning connotes something different from previous work. The concept *active learning* implies something including instructor demonstrations, brainstorming, and reflections among others. Kinaesthetic learning considered here is a sub-set of active learning where students are sent out of their seats and made quite active (Edison, n.d.). On the whole, both data sets (quantitative and the qualitative) show that the dominant learning style among SHS Economics students in the Central Region is the kinaesthetic learning style.

Research Question 3

Which learning strategy is most preferred by Economics students in the Central Region of Ghana?

Quantitative Results

This research question was posed to ascertain the mostly used learning strategy by Economics students. To do this, students were provided with 45 items measured on a five-point Likert scale to indicate their learning strategies after which the ranking order of their responses were used to ascertain their most preferred learning strategies. The mean and standard deviations were computed for use of each of the three learning strategy categories. Table 13 shows the responses of students in respect of their leaning strategies.

Table 13: Distribution on Learning Strategies Adopted by Economics Students (N=668)

L S Category	Mean	Standard Deviation	Minimum	Maximum	Rank
Cognitive	3.2523	.625685	2.4523	4.4567	1
Meta-cog.	2.5096	.64361	2.2384	4.3844	2
Res. Mgt	2.11215	.62695	1.9464	4.2285	3

From Table 13, one can see clearly that the most preferred learning strategy of Economics students in the Central Region was the cognitive strategy (M=3.2523; SD=.625685) which ranked first in the responses of students. This was followed by the meta-cognitive strategy (M=2.5096; .64361) with the least

preferred being the resource management learning strategy (M=2.11215; .6269). Results for the interviews on this research question have been presented and discussed in the next paragraph.

Interview Results

Interviewees were as part of their debriefing, prior to the actual interviews, asked to limit themselves to their out-of-class learning activities. There were dissenting views relating to their most preferred learning strategies though the majority indicated that they mostly used meta-cognition (i.e. the meta-cognitive) learning strategy. For instance, one of them said, '*... so I apply the theory knowledge [...theoretical knowledge] to get what I am taught and this helps me a lot.; ... we set trial questions for ourselves, and we try to answer it*' (ES1). Others also echoed this saying,

'... I take my note and then start revising what the teacher has taught me and then after that, I will close the notes, look into past questions and then refer the same questions that the teacher gave to us in class ... and then try if I will be able to do it on my own so if I do, then I refer to see if I'm right' (ES2).

The same interviewee said, '*... if I find some challenging topics, I consult friends who can help to clear my doubts*' which connotes the resource management strategy. Some also said they memorised information (i.e. cognitive strategy) most of the time and some also said they selectively took verbatim notes when they are learning.

Some also said they sometimes recited important parts of their notes as a way of retaining learnt information (i.e. cognitive strategy). One of them, in answer to a question repeated, ‘... *you read through what the teacher has taught and you try to memorise. Something like you try to remember the things* (ES2). Some of them were also of the view that they used resource management strategy by helping their other colleagues. One interviewee said, *sir, okay...ermhhh, sometimes you help your friend who didn't understand and that helps me to learn and get whatever I have learn* (ES3). The meta-cognitive learning strategy dominated the themes that emerged in the responses thus appearing ten times. It was followed by resource management strategy theme which also appeared five times and lastly the cognitive learning strategy theme which appeared four times. There is however the argument that students can use meta-cognitive strategy only if they used their cognition. With this analogy, it stands to reason most of the interviewed students used cognitive and meta-cognitive strategies. The following segment provides an integrated discussion based on results of the two data sources.

Integration of Results

On the third research question, the quantitative data showed that Economics students in the Central Region adopted the cognitive learning strategy. This manifested in students' responses related to their rehearsal, elaboration, and organisation activities in congruence with McKeachie *et al's*. (1986) model. Others claimed that this active constructive process allows the learner to interpret information and connect it to existing cognitive structures. Olgren, (1998) stated

that rehearsal strategies were employed by learners to remember materials using repetition.

Cognitive strategies which most of the students used are specific rehearsal tactics including repetition of learnt materials aloud, copying the material, taking selective verbatim notes and underlining the most important parts of the material. They also used elaboration which allows students to build internal connection between what is being learnt and previous knowledge. Students paraphrase, summarise, generate note-taking among others. All these were cognitive strategies that students used in the region. Normally, students who took notes were more likely to earn an “A” in their course (Miller (1997a). However, the same conclusion cannot be made in this study given the different subjects and contexts underlying the two studies. On the organisational strategies, Pintrich *et al.* (1991, p. 21), said, ‘*organisation strategies help the learner select appropriate information and also construct connections among the information to be learned*’. Some of the organising strategies found to be used included outlining and selecting the main ideas in reading materials. Organising is an active, effortful endeavour which often results in close involvement of students in the learning situation. The cognitive strategy use by the students gives credence to the conclusions of Gaskins and Elliot (1991) who indicated that high-achieving students use more elaborative and organisational strategies than low-achieving students.

In similar manner, the cognitive learning strategy emerged as the dominant theme among the interviewees even though the views were also in

favour of meta-cognitive strategies. The outcome of this study is dissimilar to one conducted by Britton and Tesser, (1991) in a psychology course whose finding showed that time planning and management training helped students to better self-regulate.

The interviews revealed that students monitored their learning through self-testing. Monitoring in this context involve processes by which learners checked themselves for comprehension of knowledge or skills. As a researcher, I know that monitoring also brings about processes that touch on activities such as following one's attention as one reads, self-testing, and questioning. These activities assist students to understand the materials they read and integrate them with prior knowledge. Monitoring activities contribute to improved acquisition, generalisation, and transfer of knowledge. Brennan and Schloemer (2003) in a psychological study on 'developing self-monitoring behaviour in students: the effect on student performance and resourcefulness' found that self-monitoring helped students focus their attention on and discriminated between effective and ineffective performance and revealed inadequate learning strategies. It is in the light of this that I find the outcome of the interviews very refreshing.

The meta-cognitive strategy which entails self-regulation could be correlated with academic achievement (Zimmerman & Martinez Pons, 1986). This was the results of a study conducted on 10th grade students in a non-specified field of study. A relatively recent research thesis conducted by Anane in 2014 showed that burgeoning literature supports that high academic performance is strongly open to the level of self-regulation the learner is capable of exercising. In

fact, the literature shows that unlike passive students, self-regulated students proactively seek out information when needed, persist even at difficult tasks and take necessary actions to master the information they seek. This was expressed by most of the interviews when they were asked if they backed off when they encountered difficult concepts in learning Economics and their response was negative. Such students were able, according to Zimmerman (2009) and Pintrich (2004) capable of concentrating even in the midst of obstructions such as noisy learning environments and classmates.

Perhaps the difference in the outcome of the two data sources goes to give credence to the fact that meta-cognitive strategies are possible only when the individual essentially uses their cognition. This is what Beishuizen and Steffens, (2011) considered as self-regulation of cognition and behaviour. According to these authors, the extent to which students become self-regulators of their own learning influences their academic success. And the outcome of this current study concurs with the position of Beishuizen and Steffens.

On the whole, based on the quantitative data, the most preferred learning strategy of Economics students in the Central Region was the cognitive strategy ($M=3.2523$; $SD=.625685$). Similarly, findings from the interviews showed that the cognitive learning strategy was the most preferred learning strategy of students, followed by the meta-cognitive and resource management strategies.

Research Question 4

Which learning strategies are preferred by Economics students in the Central Region of Ghana (who adopt visual, auditory, and kinaesthetic learning styles)?

Quantitative Results

This research question sought to find the learning strategies that were preferred by visual, auditory, and kinaesthetic learners. Table 14 shows the descriptive analysis, comparing the mean of the different learning strategies in relation to students' learning styles.

Table 14: Mean Scores of Students' Preferred Learning Strategies (N=668)

Learning Styles	Learning Strategies		
	Cognitive	Metacognitive	Resource Mgt
Visual (n=170)	M=2.5819 SD=.69059	M=2.4768 SD=.70334	M=2.3897 SD=.66014
Auditory (n=233)	M=2.8811 SD=.57889	M=2.6536 SD=.51204	M=2.6298 SD=.60785
Kinaesthetic (n=265)	M=2.8082 SD=.60123	M=3.0005 SD=.61993	M=2.5393 SD=.58544

Making inferences from Table 14, one sees that visual students had the least preference for cognitive learning strategies (n=170; 2.5819; SD=.69059) and auditory learners had the highest preference for cognitive learning strategies (n=233; M=2.8811; SD=.57889). Surprisingly however, kinaesthetic students had

the highest preference for meta-cognitive learning strategies ($n=265$; $M=3.0005$; $SD=.61993$). On the contrary, the least preferred learning strategy by visually styled students was the resource management learning strategy ($M=2.3897$; $SD=.66014$). In the same vein, the least preferred learning strategy by auditory styled students was the resource management strategy ($M=2.6298$; $SD=.60785$). Lastly, the least preferred learning strategy by kinaesthetic students was the resource management learning strategy. From the analysis, it is clear that the least preferred learning strategy by Economics students was the resource management strategy where students actually manage their time, study environment, and seek support of others. In order to understand the issues better, the results of the interviews have been presented in the following sections.

Interview Results

The interview question asked students how they preferred to acquire information. In response, most of them said they preferred to acquire information through doing; that is kinaesthetic learners (ES1, ES2, ES3, ES4, and ES6). However, one student interviewee (ES5) said he preferred acquiring information through seeing; that is a visual learner.

For instance, '*... you read through what the teacher has taught and you try to memorise ... Something like you try to remember the things*' ([Cognitive] ES1). ES2 also, in response to what he did to retain learnt information (cognitive strategies). He said, '*... I take my note and then start revising what the teacher has taught me...*'

Another theme which surfaced was the meta-cognitive learning strategy. This came to light as the ES1, in response to whether he self-tested said, '*... yea, at times in my class after learning, we set trial questions for ourselves, and we try to answer it*'. The resource management strategy also came up. This came to light when in response to a question ES1 intimated, '*... Sir, okay... ermmhh, sometimes you help your friend who didn't understand and that helps me to learn and get whatever I have learnt*'. It is insightful to note that all interviewees indicated they had personal time table, suggesting they had a well-prepared plan for studies. This was succinctly expressed by one of them who stated, '*... that's why I have my personal time table*' (ES2) in response to a question on whether they had a plan for studies.

The only respondent who said he preferred to acquire information through seeing was ES5. A case in point was where this interviewee exclaimed, '*... I read through the notes*' (Cognitive, ES5). He further said, '*... I try to solve questions on my own sometimes together with friends from the business and general arts programmes*' (resource management strategy). Another theme which emerged from the responses of ES5 was the resource management strategy. This was expressed when he said, '*... I consult other friends in the dormitory especially those who are good in Economics*'. Over all, the only visual learner interviewee fancied using resource management learning strategies as this theme occurred five times.

Overall, the most occurring theme in the responses of the interviewees was the meta-cognitive learning strategy. From here, it is clear that the kinaesthetic

and visual styled students had preference for the use of meta-cognitive learning strategies. These views were expressed relative to the students' planning, monitoring, and self-regulated learning activities which characterised student learning. This outcome reinforces the position of an earlier researcher who noted that growing body of literature supports the idea that optimal academic performance is strongly opened to the level of self-regulation the learner is capable of exercising (Anane, 2014). Therefore, students' preference for meta-cognitive strategy becomes a good omen for students since this, if encouraged, could stimulate the downward trend in students' performance. As the literature shows, self-regulation of cognition and behaviour, according to Beishuizen and Steffens, (2011) are important aspects of learning and the extent to which students become self-regulators of their own learning influences their academic success (Zimmerman, 2008; Lyn, Cuskelly, O'Callaghan & Grey, 2011). The ensuing segment provides discussion on results from the questionnaires and interviews.

Integration of Results

On the fourth research question, the quantitative data showed that visually styled students had a highest preference for cognitive learning strategies whereas auditory learners were found to have high preference for cognitive learning strategies. This finding gives meaning to the outcome of some studies which pointed to the effect that students' learning styles influenced their learning strategy choice (Ehrman, & Oxford, 1990; Rossi-Le, 1995). Being visual and inclined to cognitive strategies makes much intuitive sense. This is because visual students, by their nature want to see their teachers physically, they want to see

tables, diagrams, graphs, pictures in order to understand issues presented to them. They can only understand these visual images by processing information with their cognition. However, kinaesthetic students have high preference for meta-cognitive learning strategies. Kinaesthetic styled students who, according to Flemin (1995) want to be active in the learning process, need to 'learn how to learn' so as to retain learnt information. The interviews revealed also that overall, kinaesthetic learners mostly preferred meta-cognitive learning strategies. This outcome supports a similar study on learning styles of Iranian English as foreign language students by Riazi and Riasati (2007). Their research found that kinaesthetic students favoured meta-cognitive strategies.

The literature supports the idea that kinaesthetic students be actively engaged to *do* something. They should be engaged in moving, engaging the body, using the hands – while learning in order to truly 'get' the materials learnt. Students who favour this learning style have difficulty learning during traditional lecture-based teaching. This is because their bodies fail to make the connection that students are doing something when they are just seeing or listening during a lengthy lecture. Their brains are engaged, but their bodies are not, which, for kinaesthetic student, means they may not really learn the information. Much of the time, they need to get up and move to put something into memory.

Overall, the quantitative analysis showed that whereas visual students had highest preference for cognitive learning strategies (n=170; 2.5819; SD=.69059), auditory students had highest preference for cognitive learning strategies (n=233; M=2.8811; SD=.57889) even though kinaesthetic students also had highest

preference for meta-cognitive learning strategies (n=265; M=3.0005; SD=.61993). On the contrary, the qualitative analysis showed that both the kinaesthetic and visual students interviewed had highest preference for meta-cognitive learning strategies.

The Multiple Regression Analysis

The main objectives of this study were to examine the school and student factors related to learning strategy choice among Economics students in the Central Region. The use of the qualitative data also helped to shed light on the quantitative results and provided deeper understanding of the issues. First, I collected quantitative data using questionnaires to identify variables that were related to learning strategy choice of Economics students. Secondly, I collected qualitative data to give insight to the statistical results from the quantitative phase. Table 15 illustrates data on how the explanatory variables predict the criterion.

Table 15: Regression on how the Explanatory Variables Influence the Criterion

Explanatory Vari	Cognitive	Meta-cognitive	Resource Mgt
Learning styles (base=auditory)			
Visual	0.309*** (0.000)	0.418*** (0.000)	0.253*** (0.000)
Kinaesthetic	0.222*** (0.000)	0.178*** (0.006)	0.169*** (0.005)
Teaching method (base=student-centred)			
Teacher-centred	0.018*** (0.000)	-0.008** (0.025)	0.112** (0.020)
Motivation (base=extrinsic)			
Intrinsic Motiv.	0.096 (0.175)	0.213*** (0.002)	0.192*** (0.008)
Sex (base=male)			
Female	0.033	0.071	-0.048

Table 15 Continued

	(0.452)	(0.140)	(0.281)
Student-status (base=boarding/hosteller)			
Day student	0.014 (0.766)	-0.119** (0.017)	-0.144*** (0.002)
School type (base=public)			
Private school	-0.020 (0.642)	-0.073 (0.129)	-0.129*** (0.005)
_cons	2.282*** (0.000)	2.241*** (0.000)	1.882*** (0.000)
Number of obs =	668	668	668
F(9, 658) =	11.84	8.37	9.34
Prob > F =	0.0000	0.0000	0.0000
R-squared =	0.0816	0.0901	0.1393
Adj R-squared =	0.0718	0.0804	0.1276
n =	668	668	668

P-values in parentheses ** p<0.05; *** p<0.01

Where: **Vari** = Variable; **Mgt** = Management; **Moti** = Motivation; **Adj R-squared** = Adjusted R-squared; **n** = Sample size; **Obs** = Observations; **cons** = Constant.

Hypothesis 1: Teaching method, sex, student motivation, learning style, school type, and student status significantly predict students' use of cognitive learning strategy.

The purpose of this hypothesis was to determine the Independent Variables (IVs) which predict students' use of cognitive learning strategy. Some of these cognitive strategies include students repeating learnt materials, taking verbatim notes, memorising learnt stuff as a way of retaining information, underlying important concepts while learning, reciting concepts learnt and organising Economics materials from different sources to make learning easier. Others include solving a lot of past questions in Economics, doing outlining of vital Economics materials, and making use of charts, diagrams and drawings to facilitate learning. The rest included relating learnt materials to real life and

organising thoughts and thinking about possible alternatives to solving Economics problems. Statistical significance was determined at 0.05 and 0.01 level.

From Table 15, one can deduce that visual learners use of cognitive learning strategy increased by 0.309 more than auditory learners, 'ceteris paribus' meaning that visual learners used cognitive learning strategies more than auditory learners. This is statistically significant at one percent, indicating the relevance of this variation. Again, one can observe that compared to an auditory learner, a kinaesthetic learner's use of cognitive learning strategy increases more by 0.222, which is significant at one percent.

Regarding teaching method, when the teacher used student-centred method, students' use of cognitive learning strategy increased by 0.018, 'all things being equal' compared to when a teacher used teacher-centred approach and it is statistically significant at one percent, showing relevance of this variation. This outcome gives credence to Vygotsky's (1978) suggestion, cited by Dixon-Krauss, (1996) that teachers should use cooperative learning exercises (student-centred method) so that less competent children can develop with the help of more skilful peers. Also, the result shows that teachers' behaviour plays an important role in developing to enhance students' cognitive learning strategy use (Solovaara, 2005). Teachers communicate goal messages that influence students' choice between different strategies by affecting students' adoption of learning goals. Students' strategic activity is also related to teachers' coaching of learning and particularly to practices by which teachers model the use of strategies and urge

students to apply them in different situations (Hamman, Berthelot, Saia, & Crowley, 2000).

On motivation, when students were intrinsically motivated, their use of cognitive learning strategy increased by 0.096 more compared to when they were extrinsically motivated but this was not statistically significant. Ames (1992) suggested that in motivation, the environmental factors that have effects on students' adoption of achievement goals can be extended to family, peer groups, community, culture, ethnicity, and historical context.

Again, compared to male students, female students' cognitive learning strategy increased more by 0.033 but this was not statistically significant. Though the result was not significant, the positive correlation coefficient showed that female students were likely to be predisposed more to the use of cognitive learning strategies than male students.

Lastly, it is clear that compared to a boarder/hosteller, a day student's use of cognitive learning strategy increased by 0.014 higher than their counterpart in the boarding or hostel, *ceteris paribus*, though this was not statistically significant. The result, though not significant, seems to contrast one of the three principles underlying Vygotsky's social development theory which Wink and Putney (2002) echoed that social interaction plays a critical role in cognitive development in relation to what is learned and when and how learning occurs. In this case, day students do not have people to interact with and to compensate for that, they have to increase their use of cognitive strategies.

Also, compared to students in public schools, the use of cognitive learning strategies by students in a private school was lower by 0.020 than students in the public schools, 'ceteris paribus', though the result was not statistically significant. By inference, students in public schools were more predisposed to using cognitive learning strategies than their counterparts in private schools. This result lends credence to the fact that learning context is a crucial factor related to self-regulation, motivation, and use of learning strategies (Ames & Archer, 1988). From the analysis, it is clear that learning styles and teaching methods significantly explain variations in students' use of cognitive learning strategies.

Hypothesis 2: *Teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of meta-cognitive learning strategy.*

The purpose of this hypothesis was to determine the Independent Variables (IVs) which predicted students' use of meta-cognitive learning strategy. In other words, it was to test how students' use of meta-cognitive learning strategy could be predicted from school-type, sex, student status, motivation to study Economics, learning style, and teaching method. Results yielded insight into the explanatory variables that predisposed or influenced students' approval and use of meta-cognitive learning strategies.

In Table 15, one sees that a visual learner's use of meta-cognitive learning strategy increased by 0.418 higher than an auditory learner, holding constant, all other factors in the model significant at one percent. Again, kinaesthetic learners

increased their meta-cognitive strategy use by 0.178 compared to an auditory learner and this variation was statistically significant at one percent. This means that, both visual and kinaesthetic learners adopted more meta-cognitive learning strategies than auditory learners (results significant at one percent). Again, students' use of meta-cognitive learning strategy increased more by 0.008 when the teacher used student-centred method than when he/she used teacher-centred method. This implies that for teachers to develop meta-cognitive learning strategies in students, they have to adopt student-centred methods in teaching Economics for the simple reason that this method predisposes students to the use of meta-cognitive learning strategies. This finding finds expression in what Dixon-Krauss, (1996) said regarding Vygotsky's suggestion that teachers should use cooperative learning exercises (student-centred method) so that less competent children can develop with the help of more skilful peers - within the zone of proximal development. Also, the finding shows that teachers have several ways to enhance meta-cognitive self-regulation and use of cognitive learning strategies (Solovaara, 2005). By modelling, scaffolding and coaching strategy use for instance, teachers can enhance students' cognitive self-regulation (Hamman *et al.*, 2000).

In addition, intrinsically motivated students increased their use of meta-cognitive strategy more by 0.213 than extrinsically motivated students, 'all things being equal', and this was also statistically significant at one percent. This implies that intrinsically motivated students were predisposed to using more meta-cognitive learning strategies compared to extrinsically motivated students. Again,

female students increased their use of meta-cognitive learning strategy by 0.071 more than male counterparts, though this outcome was not statistically significant. The correlation coefficient shows that female students used more meta-cognitive learning strategies than male students though the result was not statistically significant.

Lastly, it is clear that compared to boarders/hostellers, day students' use of meta-cognitive learning strategy decreased by 0.119 lower than their boarding or hostel counterparts, 'ceteris paribus' and this was statistically significant at five percent. Meaning that boarding/hostellers were predisposed to using more meta-cognitive learning strategies compared to day students. Perhaps, this is naturally so because boarding/hostellers see an urgent need to take advantage of their learning environment, work extra hard to 'out-perform' their perceived less privileged colleague day students. Also, compared to students in public schools, private school students decreased their use of meta-cognitive learning strategy by 0.073 than students in public schools, 'ceteris paribus' though this was not statistically significant. By inference, students in public schools were more likely to be predisposed to using meta-cognitive learning strategies than students in private schools. The reason may be due, though statistically unsubstantiated, to elevated infrastructural and institutional arrangements which promote students' use of meta-cognitive learning strategies in public SHSs in the region. The non-existent of the necessary structures in the private schools may hinder students' use of meta-cognitive learning strategies. From the analysis, it is clear that learning

styles, teaching methods, motivation, and student status significantly explain variations in students' use of meta-cognitive learning strategies.

Hypothesis 3: *Teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of resource management learning strategy.*

The purpose of this hypothesis was to determine the Independent Variables (IVs) that predicted students' use of resource management learning strategies. Some of the strategies include studying Economics by explaining concepts to colleagues or relying on the benevolence of colleagues to understand difficult concepts. Others include studying Economics through group discussions and benefitting from learning experiences of colleagues, seeking help from teachers, colleagues, and using material resources such as libraries as places of learning. Vygotsky (1978) therefore viewed learners' interaction with peers as an effective way of developing skills and strategies.

From Table 15, it is clear that a visual learners' use of resource management learning strategy increased by 0.253 higher than auditory learners, 'ceteris paribus'. These were statistically significant implying that the differences between the two groups were relevant. Furthermore, kinaesthetic learners' use of resource management strategy increased more by 0.169 compared to auditory learners and this was also statistically significant at one percent. The implication is that both visual and kinaesthetic learners were more predisposed to using resource management learning strategies than auditory learners. In addition, students' use of resource management strategies increased more by 0.112 when

teachers used teacher-centred method compared to when they use student-centred method. This result was also significant at five percent indicating the relevance of this variation. By inference, this means teachers could develop in students, a desire to use resource management learning strategies when they adopt teacher-centred rather than student-centred methods of teaching. This finding dove-tails into what Dixon-Krauss, (1996) said regarding Vygotsky suggestion that teachers should use cooperative learning exercises (student-centred method) so that less competent children can develop with the help of more skilful peers - within the zone of proximal development.

On motivation, when students were intrinsically motivated, their use of resource management learning strategies increased by 0.192 more, 'ceteris paribus' compared to when they were extrinsically motivated and this was statistically significant. However, compared to male students, female students' use of resource management strategy decreased by 0.048 than male students implying that male students were more predisposed to using resource management learning strategies than female students, 'ceteris paribus' though this result was not statistically significant.

Lastly, day students' use of resource management learning strategy decreased by 0.144 lower than their boarding or hostel counterpart, 'ceteris paribus' and this was statistically significant at one percent. Similarly, compared to students in public schools, private school students decreased their resource management learning strategy use by 0.129 lower than their counterparts in public schools, 'ceteris paribus' and this is statistically significant at one percent. By

inference, students in public schools were more predisposed to using resource management learning strategies than their counterparts in private schools. From the analysis, it is clear that learning styles, teaching methods, student status, and school-type significantly explain variations in students' use of resource management learning strategies.

The main policy variables emerging from the result are student learning styles and teaching methods. These variables influenced students' use of all the learning strategies. Again, learning style, teaching methods, and student status influenced students' use of meta-cognitive and resource management learning strategies. The only variable influencing students' use of meta-cognitive learning strategies was motivation. The variables in addition to learning styles and teaching methods, that influence students' use of meta-cognitive and resource management learning strategies was student status. This shows also that the status of students was important to their learning success. However, the only variable which did not significantly influence students' use of the learning strategies was sex.

In sum, regarding the learning strategies in Table 15, four key issues emerged. First, visual learners adopted meta-cognitive learning strategies more than cognitive and resource management learning strategies. Secondly, for kinaesthetic learners, they were predisposed to using cognitive learning strategy was first, followed by meta-cognitive and finally resource management learning strategies. Thirdly, among the three learning styles, visual learners adopted cognitive learning strategy most compared to auditory and kinaesthetic learners.

Again, two issues emerged from teaching method and student use of learning strategies. First, when the teacher used student-centred approach/method, students were predisposed to using resource management learning strategies compared to when they used teacher-centred approach. Also, all the three learning strategies favoured students-centred method of teaching compared than teacher-centred method of teaching. The significantly higher p-value level ($p = 0.000$) indicates the relevance of these variations. These findings find expression in the triadic model by Albert Bandura implying that the personal student factor (motivation to learn) generates the necessary stimuli which determined the type of learning strategy adopted by students. Evidence has pointed also to the effect that pro-activeness in learning such as learning setting, appropriate goals, self-motivation and persistence in achieving task completion were all essential for pleasant performance outcomes. Evidence from the interviews provide further twist or deeper understanding to the quantitative data.

Evidence from the Interviews

Influence of the explanation variables on students' use of cognitive, meta-cognitive and resource management learning strategies

One area of interest of this study was to find out from students, through the interviews, how teachers' teaching method, motivation to study Economics, sex, learning style, school type, and status (either as day or boarder/hosteller) predisposed students to particular learning strategy. A majority of the interviewees, in response to whether sex influenced their learning strategy answered in the negative, saying their sex status had no influence on their learning

strategy. When asked to state whether their motivation influenced the kind of learning strategy, the majority responded in the affirmative.

Most of them said their motivation drove them to plan their studies, made sure they understood and retained what they learnt in class. Asked to say whether their status influences their studies, one of them said she felt constrained in adopting a particular learning strategy because of her status as a day student. In this regard, ES3 categorically said, *'...my status as a day student is influencing the way I learn though'*. On the same issue, ES5 said, *'... yes, I will say we have enough time to study at prep that the school has bound them to learn that time'*.

On whether their teachers' teaching method influenced the kind of learning strategy they adopted; majority replied in the affirmative. Most of them said it did influence their learning strategy. Responses of two of the interviewees concisely captured this when they said, *'... Yes sir because it makes me use the right strategy in order to pass my exams'* (ES1). In a similar manner, one said, *'... Errm... Sir, I think the teaching method, if it is good helps me adopt the appropriate strategy but if it is not ..., I rely on others for assistance'* (ES5). On the matter about how school type influences learning, the majority responded in the affirmative. For example, some of them said, *'... yes, I think because schools differ and the differences influence how students learn'* (ES1). Further another one said, *'... not always because I think not where you are but what you want to achieve....'* (ES2).

Also, ES3 echoed this sentiment by stating, *'... yes, because if my school has more facilities, I have to use them to learn'*. From the responses, it became

clear that students suggested that all the variables for them influenced their choice of a particular learning strategy. However, all of them said, sex did not influence their learning strategy and that was why they did not consider sex in approaching a colleague for help. The only variable which students were not definitive about it influencing their learning strategy was learning styles. The subsequent segment discusses results from the quantitative and qualitative data in relation to the literature.

Integration of Results

On the first hypothesis, the regression analysis on the explanatory variables which predicted students' use of cognitive strategy showed that students' learning style and teaching method predisposed them to using the cognitive learning strategy. In other words, variations in the cognitive strategies were largely explained by the cumulative effects of learning style differences and the different teaching methods of teachers in the teaching of Economics. In the literature learning styles and teaching methods influenced students' learning strategy choice (Oxford & Nyikos, 1989).

There was a positive correlation coefficient between motivation and cognitive strategy use though the result was not statistically significant. This implies that intrinsically-motivated students increased their cognitive strategy use. The result partially supported the result of a study conducted by Oxford and Nyikos (1989) on foreign language (which was contextually different from the current study) which also found that foreign language undergraduate participants, who were substantially motivated, tended to adopt more learning strategies and

used them more frequently. This finding also confirms the suggestion that motivation predisposed students to cognitive learning strategies. In a relatively recent study, Rahimi *et al.* (2008), in Persian context, student motivation level was found as a major predictor of learning strategy use. Another study by Khamkhien (2010) also discovered motivation as the most significant factor, followed by experience in studying English, and gender as affecting students' choice of learning strategies (LS)

Also, literature from previous studies shows that learning styles predicted student's cognitive learning strategy use. Some of the studies especially in Asia have shown that students' learning styles influenced their learning strategy choice (Ehrman, & Oxford, 1990; Rossi-Le, 1995). According to Ehrman and Oxford (1990), an individual's learning style preference influenced the type of learning strategies they used. Extroverts were found to show a strong preference for social strategies (seeking help from others which is categorized under resource management strategy in this study) whereas introverts were inclined to using meta-cognitive strategies. Rossi-Le's (1995) study also showed that learners who favoured group study tended to use social and interactive strategies though this study did not focus attention on this aspect.

On the variables that predicted meta-cognitive learning strategy, learning style, teaching method, motivation, and student-status were found to influence students' use of meta-cognitive learning strategies. The study however did not find sex as a predictor of meta-cognitive learning strategy. This finding contrasts the findings of Hong-Nam and Leavell's (2006) study which discovered that

females preferred social (resource management) and used less meta-cognitive strategies compared to males who used less cognitive strategies and mostly used meta-cognitive strategies. The literature thus supports the finding that motivation, and learning style actually predicted students' use of meta-cognitive strategies. However, there is no scientific evidence in the literature to directly support that teachers' teaching method and student-status predicted students' use of this particular learning strategy. To maximise learning, many pedagogues have proposed multisensory approach to teaching. This is the kind of teaching that allows students to be able to use multiple pathways to the brain at a time in learning (Begel, Garcia & Wolfman, 2004). In this case, students are not only given the chance to hear concepts explained, but are also provided the opening to either use their *hands/body* in learning, or *see visuals* that carry meaning of the lesson or both.

Finally, learning style, teaching method, student-status and school-type were the explanatory variables that influenced students' use of resource management learning strategies. As has been established, sufficient literature backs learning styles but not teaching method as predictors of students' learning strategies. Nonetheless, with student status, the little literature cited examined student-status relative to their learning and performance. For example, in a comparative study of the reading habit of boarding and day secondary students in Osogbo state in Nigeria in 2007, Adentuji and Oladeji found that most of the boarding students read their notes regularly because they had scheduled time for reading in their curriculum as the interviewees of this study revealed. As a result,

students used libraries and library books less privileged day students had. That study also showed that day students read occasionally especially during examinations. Consequently, boarders were above average in their academic performance whereas day students were below average. Since reading has a positive influence on performance, it stands to reason that student status also affects use of learning strategies.

The finding that school type influenced students' use of resource management learning strategies is perhaps maiden but germane in the area of Economics education. It makes a lot of intuitive sense to learn that the school type (i.e. either being in a public or private school) predicted students' use of resource management learning strategies. Nonetheless, the literature shows that for instance, differences in infrastructural stock could affect quality of learning and for that matter learning strategy used. In this case, the fact that school type predicted resource management strategies implies that the learning environment was crucial in determining the learning success of students. In effect, the learning environment plays an important role in explaining the academic success of a student (Booth & Nolan, 2009).

A critical look at the quantitative findings shows that the explanatory variables that explained variations in the three learning strategy types were learning styles and teaching methods. This means that the two variables influenced students to use any of the learning strategies. However, the interview data barely corroborated the quantitative findings. Rather, the interviews showed that motivation, teaching method, school type, and student status influenced

students' learning strategy choice. Therefore, the finding derived from the quantitative data seemed to contrast an earlier study conducted by Rahimi, Riazi, and Saif (n.d.) in which the variables predicting strategy use among Iranian students showed that motivation had the strongest linear relationship with learners' overall strategy use after proficiency level. That study suggested that the higher learners' motivation, the higher their overall use of Learning Language Strategies (LLSs). In other words, the study found that highly motivated learners were high strategy users (using more learning strategies) compared to other two groups who were moderate strategy users. Most of them responded in the affirmative when they were asked whether they felt those variables exerted force on the type of learning they adopted. Still in that study, like the current one, students responded in the negative when they were asked to state if their sex status influenced the learning strategy they used. There were no definitive responses from students regarding how their learning styles predisposed them to a learning strategy.

The difference was in the learning styles which students did not say influenced their learning. Though from the quantitative findings, it was clear that learning style and teaching methods predicted students' use of cognitive, meta-cognitive, and resource management learning strategies. Also, whereas school type only predicted use of resource management learning strategies, majority, from the interviewees suggested that the type of school was crucial to their learning strategy. Here again, there was response convergence since the quantitative and qualitative methods found that teaching method influenced

learning strategies used. Lastly, in the quantitative data, student status predicted meta-cognitive and resource management learning strategy use and the interviewees similarly indicated that their status (day/boarder/hosteller) influenced the learning strategies they used in learning Economics.

Emergent Issues from the Interviews

Certain thematic issues which were not anticipated emerged during the interviews. It related to students' suggestions on how they felt their learning could be enhanced. Though opinionated, these suggestions give insight into the way forward in improving teaching and learning. Table 16 illustrates the suggestions which have been thematised.

Table 16: Emerging Themes on Ways of Improving Learning of Economics

Participant	What they said	Theme embedded
ES1	<i>... also sir, textbooks too'.</i>	Provision of TLRs
ES2	<i>... Teaching learning materials should also be provided.</i>	”
ES4	<i>... for heads, they must put up learning centres where the environment is conducive for learning'.</i>	”
ES5	<i>... the heads must provide the necessary teaching materials. Here, we lack most of the things which is not the best'.</i>	”
ES6	<i>... [government] ... must help parents to get good text books for us to use.</i>	”

Table 16 Continued

ES1	<i>'... Emmrh, sir, conduct extra classes. Although many wouldn't join, a few will join which will help.</i>	Extra classes
ES1	<i>... '... since my teacher uses the right method, I think it's okay'.</i>	Method of teaching
ES2	<i>... Teachers must also take students on excursion to get field experience when they are teaching practical-oriented topics.</i>	Field trips as teaching method
ES3	<i>'... ok, let me take our teachers first... So, I think we have to start solving past questions and all the stuffs; and doing a lot of tests. ... They should test us from all that we have studied from first year up till this time... [to the school],</i>	”
ES4	<i>'... About the teachers, I think teachers should use student-centred approach;</i>	Student-centred teaching method
ES3	<i>... they should give homework and make sure they mark in time.</i>	Giving a lot of assessments
ES4	<i>... they should give assignments because some of the students when we go home, we don't learn. We just roam about. Giving the assignments will make them</i>	”
ES6	<i>ready to learn...</i>	”
ES2	<i>... teachers and heads should present prizes to motivate students to put up their best in class.</i>	Students should be motivated by teachers and heads to learn
ES4	<i>... the parents should also force us to learn. They should pressure us.</i>	Students should be motivated by parents to learn
ES3	<i>... ok the school, they are doing their best. [to parents] ... parents should help us because the boarders have a lot of privileges that we don't have'.</i>	Parental involvement

Table 16 Continued

ES1	<i>... [for my headmistress], ... she should motivate teachers. Some of the teachers are not motivated and so they don't give off their best'.</i>	Incentivising teachers to teaching
ES5	<i>'... teachers must be dedicated; they must not be angry anytime we ask questions.</i>	"
ES5	<i>They must research before coming to class and they must be serious with teaching.</i>	
ES2	<i>... 'they should also start thinking about community learning centres where day students can go to learn because where some students stay is far from the school'</i>	Provision of community learning centres.
ES6	<i>... I think they should think about reducing the number of subjects; it's not helping us at all.</i>	Subject curriculum review

Where **TLRs** = Teaching Learning Resources

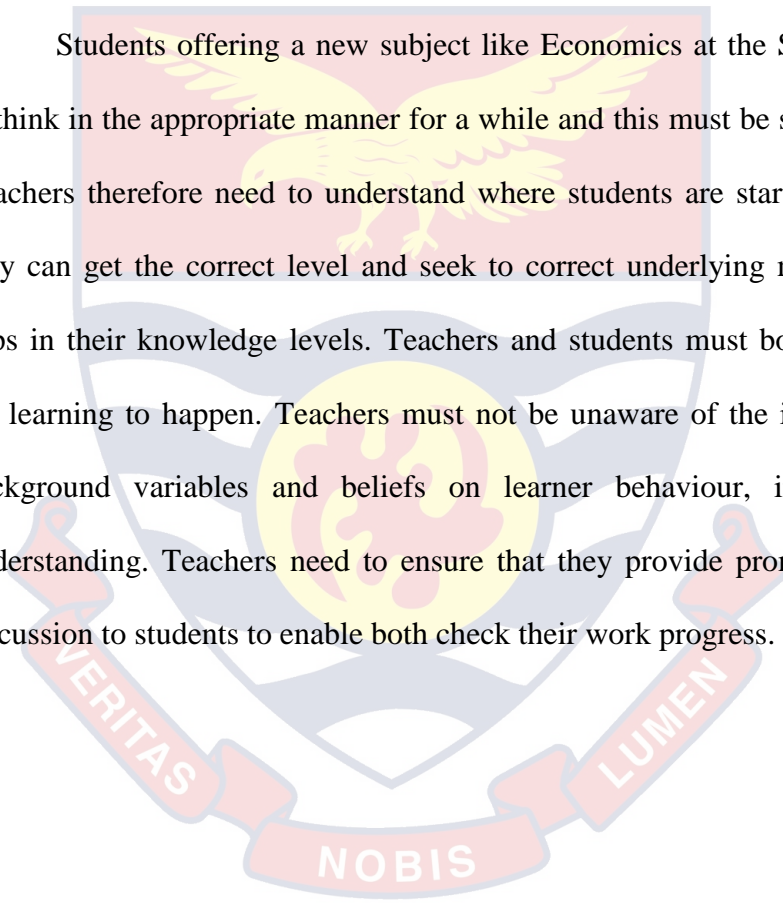
Table 16 shows the budding themes related to how learning of Economics could be enhanced. As can be deduced, ES1 proposed provision of extra classes, provision of teaching learning resources (TLRs) required. She further suggested that measures be put in place to incentivize teachers in order for them to give off their best. Then ES2 also said students should be motivated by teachers and heads to learn. She said the provision of TLRs and field trips as a method of teaching could enhance the out-of-classroom activities of students. He finally advocated for the building of Community Learning Centres where day students could go to learn as their boarding school counterparts. On her part, ES3 called on teachers to solve a lot of past questions with students. She urged teachers to try and give lots of assignments and tests with prompt feedback. She urged parents also to encourage their wards to learn at home.

ES4 also suggested that teachers should actively engage students in their teaching. He also urged teachers to try and give more assignments. He further urged parents to be involved in the learning of their wards and finally suggested for the provision of adequate learning resources. This interviewee (from the private school) urged teachers to be dedicated to their profession and suggested also the provision of necessary Teaching Learning Resources (TRLs) to enhance learning. Finally, ES6 suggested that teachers should give students enough tests, assignments, and project works. She also called on school authorities to provide adequate teaching learning resources (TLRs). She finally called for a review of the subject curriculum to possibly reduce the number of subjects being studied. These suggestions are crucial in the formulation of teaching learning policies to enhance students' performance. In all, eight discernible themes emerged from the interviews.

Critically examining suggestions of students to make learning more beneficial, certain issues need to be discussed in detail. The point needs to be made that students experience teaching in different ways and they develop learning strategies in a variety of ways and the ways in which they are taught often modify their approaches to learning. In student-centred teaching, the teacher consciously activates students' prior knowledge and students have to be brought to 'engage' with what they are learning so that transformation and internalisation may occur. It is also important to realize that students bring valuable experience to learning and that they may be more motivated when offered an element of choice. Teachers' teaching method must develop in students the ability to explain

their answers, and ask “why?” questions, not to take every material learnt as sacrosanct needing further interrogation. It is in the light of the foregoing that I see the call made by ES5 from the interviews to be very germane to the learning of students. Teachers need to acquaint themselves with modern teaching methods which help innately develop in students the ability to adopt deep approaches (meta-cognitive) to learning.

Students offering a new subject like Economics at the SHS may struggle to think in the appropriate manner for a while and this must be seen to be normal. Teachers therefore need to understand where students are starting from, so that they can get the correct level and seek to correct underlying misconceptions or gaps in their knowledge levels. Teachers and students must both be responsible for learning to happen. Teachers must not be unaware of the impact of cultural background variables and beliefs on learner behaviour, interpretation and understanding. Teachers need to ensure that they provide prompt feedback and discussion to students to enable both check their work progress.



CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Overview

The purpose of this study was to describe and explain how background factors (student and school) influence learning strategy choice of SHS Economics students in the Central Region of Ghana. The explanatory sequential mixed method, specifically the partially sequential dominant status-quantitative design was used. The following research questions and hypotheses guided the study:

1. Which teaching methods are used by SHS Economics teachers in the Central Region of Ghana?
2. Which is the dominant learning style adopted by SHS Economics students in the Central Region of Ghana?
3. Which learning strategy is most preferred by Economics students in the Central Region of Ghana?
4. Which learning strategies are preferred by Economics students in the Central Region of Ghana (who use visual, auditory, and kinaesthetic learning styles)?

Hypotheses

1. H_0 : teaching method, sex, student motivation, learning style, school type, and student status do not significantly predict Economics students' use of cognitive learning strategy.
 H_1 : teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of cognitive learning strategy.

2. H_0 : teaching method, sex, student motivation, learning style, school type, and student status do not significantly predict Economics students' use of meta-cognitive learning strategy.

H_1 : teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of meta-cognitive learning strategy.

3. H_0 : teaching method, sex, student motivation, learning style, school type, and student status do not significantly predict Economics students' use of resource management learning strategy.

H_1 : teaching method, sex, student motivation, learning style, school type, and student status significantly predict Economics students' use of resource management learning strategy.

Main data were collected from 668 final year Economics students in 24 SHSs (out of 720 intended) who were sampled through a multiple sampling technique. Supplementary data were collected from three (3) teachers through lesson observation, and six (6) students through interviews.

Descriptive statistics (mean, and standard deviation) and inferential statistics (multiple regressions) were used to analyse the quantitative data.

Thematic narrations were also used to analyse the qualitative data.

Summary of Results

Results of the study have been summarised as follows:

1. The quantitative analysis and the interviews revealed that Economics teachers used student-centred methods characterised by active student engagement, and

discussions etc. However, the observation finding showed that teachers used teacher-centred methods.

2. Both the quantitative and the qualitative analyses showed that the dominant learning style among SHS Economics students in the Central Region was the kinaesthetic learning style.
3. Both the quantitative and the qualitative data showed that Economics students in the Central Region mostly preferred the cognitive strategy.
4. The quantitative analysis showed that both visual and auditory students have high preference for cognitive learning strategies even though visual and kinaesthetic students have least preference for resource management learning strategies. In addition, kinaesthetic students also had highest preference for met-cognitive learning strategies. On the contrary, the qualitative analysis showed that both the kinaesthetic and visual students interviewed had high preference for meta-cognitive learning strategies.

The following emerged as key findings from the hypotheses:

1. Using auditory learning style as the base, visual and kinaesthetic learners increased their use of cognitive learning strategies. Again, compared to student-centred method, teacher centred-methods increased students' use of the cognitive learning strategies. In sum, it was clear that learning styles and teaching methods best predicted Economics students' use of cognitive learning strategies.
2. Both visual and kinaesthetic learners increased their use of meta-cognitive learning strategies compared to auditory learners. Additionally, compared to

student-centred methods, teacher-centred methods increased students' use of meta-cognitive learning strategies. Furthermore, compared to extrinsically motivated student, intrinsically motivated students increased their use of meta-cognitive learning strategies. Lastly, compared to boarders/hostellers, day students decreased their use of meta-cognitive learning strategies. From the foregoing, it was clear that learning styles, teaching methods, motivation, and student status best predicted Economics students' use of meta-cognitive learning strategies.

3. Compared to auditory learners, both visual and kinaesthetic learners increased their use of resource management strategies. Again, compared to student-centred methods, teacher-centred methods decreased students use of meta-cognitive learning strategies. Furthermore, compared to extrinsically motivated students, intrinsically motivated students increased their use of resource management learning strategy use. In addition, compared to boarders/hostellers, day students decreased their resource management learning strategy use. Lastly, compared to public school students, private school students decrease their resource management learning strategy use. In sum, the data showed that learning styles, teaching methods, student status, motivation, and school-type were variables that influenced Economics students' use of resource management learning strategies.

Conclusions

The findings of this study provide in-depth understanding into the learning strategy use among SHS Economics students. Generally, the results draw attention to the complexity of the phenomenon of learning strategies that interacts with a number of variables. So, to gain a clear idea of students' learning strategy use patterns, it is imperative to take all the explanatory variables into consideration particularly those that predict students' learning strategy use.

Learning Styles and Learning Strategies

Learning styles refer to the specific cognitive, affective, and physiological traits that determine how a learner processes information. These specific characteristics distinguish one learner from another, which explains why some learners are visually or auditory oriented, reflective or impulsive and vary in their tolerance to ambiguity. The learning styles of an individual help determine to some extent, their learning strategy use in language processing (Cohen, 1998; Fan, 2003; Oxford, 2003).

In this study, whereas visual and auditory styled students had highest preference for cognitive strategies, kinaesthetic students preferred meta-cognitive strategies. Literature shows that the best learning strategy for students is not cognitive but meta-cognitive strategy. Cognitive strategies are seen as ad-hoc learning measures used by students to, in a shallow manner, 'master' concepts just for the purposes of passing examinations. Cognitive practices usually engender rote learning which is generally referred to as 'chew, pass and forget'. The interview data analysis showed that kinaesthetic students had highest preference

for meta-cognitive learning strategies. This implies that teachers can develop students who are inclined to the use of meta-cognitive strategies by adopting teaching methods that actively engage students. Active student engagements in lessons progressively help students to take charge of their own learning, thus resulting in self-regulatory learning.

Students who are habituated to the use of this strategy are likely to be ones whose teachers use teaching methods which ‘force’ concepts down the throats of students. The students have no other options but to adopt these learning strategies to master the concepts for the purposes of examinations. Such students, after school cannot apply anything they learnt in school in practical situations. Partly to blame here is also the inordinate emphasis of our school system on rigorous examinations where educators seek to always measure learning success through paper and pencil tests. This situation may be responsible for why teachers adopt teaching methods that only help students to obtain high grades without any meaningful learning taking place.

In contrast, meta-cognitive strategies allow students to monitor their performance through planning, monitoring, and self-regulation (McKeachie *et al.*, 1986). In planning, students set learning goals, read regularly the materials they encounter in the classroom and in monitoring, they check themselves for comprehension of knowledge through self-regulation. In the use of this learning strategy, students self-test and self-question in order to retain concepts learnt. This strategy has been found to contribute to improved acquisition, generalization, and transfer of knowledge (cf. McCombs, 1988). With this, students’ preoccupation is

not to pass examinations and forget. Rather, they acquire concepts, understand them and try to apply them in practical situations.

As have been indicated already, the literature supports the idea that optimal academic performance is strongly open to the level of self-regulation (meta-cognitive) strategy where the learner exercises autonomy (Anane, 2014). Self-regulation is a broad concept covering a number of interdependent aspects. It includes both affective capacities – moods, feelings and emotions – and cognitive capacities – beliefs, perceptions and knowledge. In self-regulation, students adjust their reading rate, re-read, review their reading, and use test-taking procedures. Every effort must be made to ensure that students develop and adopt this learning strategy so that even after school they can apply the knowledge learnt in solving practical societal problems.

A learner's ability and willingness to work is very much determined by his/her learning style and the learning strategies he or she employs to help him/her cope within various instructional methodologies. Understanding a learner's individual style preferences can help teachers to orient their instructions and also apply appropriate teaching methods that can engender students' use of meta-cognitive learning strategy.

Support for Constructivism

Most contemporary psychologists use constructivist theories of varying types to explain how human beings learn. The idea rests on the notion of continuous building and amending of structures in the mind that 'hold' knowledge. These structures are known as new understandings, experiences,

actions and information are assimilated and accommodated the schemata change. Unless schemata are changed, learning will not occur. Learning, whether cognitive, affective, interpersonal or psychomotor domains is said to involve a process of individual transformation. Thus, people actively construct their knowledge (Biggs & Moore, 1993).

Piaget (1950) and Bruner (1966) are two of the 20th century's most eminent educationists with views that are largely congruent with constructivism. This theory argues that learning must be co-constructed by both learners and teachers. It emphasises student-centred rather than teacher-centred approach where learners are actively engaged in the course of learning. For example, Bruner's ideas relating to inducting students into the modes of thinking in individual disciplines and his notion of revisiting knowledge at higher levels of understanding, leading to the idea of a spiral curriculum, have been very influential. In the discipline of social sciences (like Economics), for instance, Bruner is often cited as the inspiration for changing the focus of teaching in schools in England. This shifted the balance from regurgitation of factual information to understanding. Some of the ways in which this was done were to encourage learners to understand how the past is reconstructed and understood.

Constructivism tells us that we learn by fitting new understanding and knowledge into and with, extending and displacing, old understanding and knowledge. As teachers, we need to be aware that we are rarely if ever 'writing on a blank slate', even if prior understanding is rudimentary, or wrong. Without changes or additions to pre-existing knowledge and understanding, little learning

will occur. Very frequently learning is thought of in terms only of adding more knowledge, whereas teachers should be considering also how to bring about change or transformation to the pre-existing knowledge of their learners (Mezirow, 1991). Additions to knowledge, in the sense of accumulated ‘facts’, may sometimes be possible without substantial transformation, but any learning of a higher order, involving understanding or creativity, for example, can usually only happen when the underlying schemata are themselves changed to incorporate new, more refined understanding and linkages. Such change will itself be likely to facilitate retention of facts for the longer term.

Teacher-centred and Student-centred Teaching

Research that investigated the interaction among a student, their teacher, and a set of learning task, led to the conclusion that students’ strategies for dealing with the task (their intention) determined the extent to which they engaged with their subject and this affected the quality of outcomes. These were classified as deep and surface approaches to learning.

The deep approach to learning, which is the result of active student engagement (student-centred teaching), typifies an intention to understand and seek meaning, leading students to attempt to relate concepts to existing understanding and to each other, to distinguish between new ideas and existing knowledge, and to critically evaluate and determine key themes and concepts. In short, such an approach results from the students’ intention to gain maximum meaning from their studying, which they achieve through high levels of cognitive and meta-cognitive processing throughout learning. Facts are learnt in the context

of meaning. There is some evidence that teachers who take a student-centred approach to teaching and learning encourage students towards a deep approach to study (Prosser & Trigwell, 1999).

The surface approach which is analogous to teacher-centred teaching, leads to learning characterized by an intention to complete the task, memorise information make no distinction between new ideas and existing knowledge; and to treat the task as externally imposed. Rote learning is the typical hallmark of this approach. Such an approach results from students' intention to offer the impression that maximum learning has taken place, which they achieve through superficial levels of cognitive processing where 'facts' are learnt without a meaningful framework. The learning outcomes for, say, social science students, who adopt a deep approach to the task of reading a set text, would include full engagement with the central theme of the text and an understanding of contributing arguments.

In contrast, those who adopt a surface approach would fail to identify the central themes – primarily because they would be engrossed in progressing through the text sequentially, attempting to remember the flat landscape of facts. The conceptions of deep and surface approaches to learning have increased in sophistication with further research, most notably the work of Biggs (1987) and Ramsden (1988). Ramsden (2003) provides helpful, illustrative examples of statements from students in different disciplines exhibiting deep and surface approaches. Biggs and Ramsden turned learning theory on its head in that rather than drawing on the work of philosophers or cognitive psychologists, they looked

to students themselves for a distinctive perspective. Ramsden (1988) suggested that approach to learning was not implicit in the make-up of the student, but something between the student and the task and thus was *both* personal and situational.

A learning strategy should therefore be seen not as a pure individual characteristic but rather as a response to the teaching method (environment) in which the student is expected to learn. Biggs (1987) identified a third approach to learning – the strategic or achieving approach, associated with assessment. Here the emphasis is on organising learning specifically to obtain a high examination grade and this is what underpins teacher-centred teaching. With this intention, students who often use meta-cognitive strategies (deep approach to learning) may adopt some of the cognitive strategies (surface approach to learning) to meet the requirements of a specific activity such as a test. A student with a repertoire of learning strategies can select – or be guided towards ones which inure to their highest benefit. Learning strategies need not be necessarily fixed and unchanging characteristics of the way a person learns.

A misconception on the part of many students entering SHS is their belief that a subject consists only of large amounts of factual knowledge or a mastery of steps or rules, and, to become the expert, all one needs to do is to add knowledge to one's existing store. It is the responsibility of the teacher to challenge and change such limited conceptions and to ensure that their teaching, curricula they design, and assessments they set, take students into more stretching areas such as critical thinking, creativity, synthesis and so on.

Motivation and Learning Strategy Use

The study also found a strong link between students' level of motivation and strategy use, which once again points to the significance of higher motivation for students' learning in the region. It is, therefore, important that curriculum developers, especially at early stages of learning Economics, provide adequate links between the objectives of subject and their application to real-life situation since the content of what is taught is germane to practical life situations. It may also be essential to modify the Economics curriculum to incorporate activities that actively engage students.

Teachers especially have a special role to play in motivating their students to develop a taste for what they study. Many of the times, students' distaste for a particular subject is traceable to how teachers handled them in class. Some students, due to inhuman treatments meted out to them vow never to study a particular subject. This is not good enough since the outcome of the study has clearly showed that motivation correlates or predicts students' use of all three learning strategies. Since there is a correlation between motivation and learning strategy use, highly motivated students use more strategies which inure to their learning benefit than their counterparts who are less motivated to study a particular subject. The outcome of this study concurs with Oxford and Nyikos' (1989) study which also found that of all the variables they studied, motivation proved to have the most powerful influence on the use of learning strategies. Highly motivated learners tended to use more strategies from formal rule-related practice strategies, functional practice strategies, general study strategies, and

conversational strategies. Wharton (2000), investigating strategy use among foreign language learners in Singapore, also found like Oxford and Nyikos that motivation had a significant effect on the use of language learning strategies.

If motivation is seen as being at the core of the individual students' propensity to study a subject, together with their attitudes, confidence levels and learning styles, then it is natural to consider motivation as perhaps the most important in helping students attain success in learning. The more motivated the student is the more effective and efficient his/her strategy use will be. Other stakeholders such as school heads, subject counsellors, alumni associations and other quasi bodies have key roles to play to ensure that students are motivated to use the appropriate learning strategies.

More specifically, the results of the present study show that the context of learning plays an important role in determining the nature and extent to which students are predisposed to a particular learning strategy especially given that the school type and the teaching method significantly predict learning meta-cognitive strategy use. For example, testing the second model, it was found that school type, motivation, and teaching method predict students' use of meta-cognitive strategies.

By implication, students' use of meta-cognitive strategies appears to have been significantly influenced by the teacher's teaching method. In the literature, teacher-centred methods lend themselves to rote learning and other cognitive strategies which make learning rudimentary and therefore unbeneficial to the student. The result confirms Wharton's (2000) observation in Singapore that the

kind of learners and the context of learning play a role in the choice of learners' strategies.

Sex and Learning strategy Use

The current study did not find any research evidence to support the claim that sex differences influence learning strategy use of Economics students like other studies (cf. Oxford & Nyikos, 1989; Oxford, 1996) have shown enough evidence for this outcome. The fact that men and women have distinct characteristics which they bring into the classroom, has been the focus of many studies, although these studies may have not all been conclusive, there have been some interesting revelations. For instance, the study by Oxford and Nyikos (1989) carried out a large study with foreign language students on the influence of gender on strategy use. A factor analysis showed that female students displayed a greater use of rule-related practice strategies, general study strategies, and conversational input elicitation strategies. Bedell (1993) studied the effects of gender on learning strategy choice among students from secondary and tertiary institutions in China. That study found that women used certain strategies and categories of strategies more frequently but, overall, their strategy use was no significantly greater than that of the men.

Implications for Curriculum Planning

Our knowledge and understanding of student learning from the literature indicates that the attention given to curriculum design and development, the planning of learning experiences and assessment of student learning, all have a significant impact on students' learning strategy use. This is not surprising given

that teachers' conceptions of 'the curriculum' range from a focus on content or subject matter through to more sophisticated interpretations which encompass learning, teaching and assessment processes.

When interpreting 'the curriculum' in a manner that includes the process which can facilitate student learning. Also, making our roles and responsibilities more explicit to students and ourselves in the teaching and learning contract is beneficial. The more attention is paid to curriculum design and development, the more likely it is that can provide transparency for students as regards the intended learning outcomes.

Implications for Policy and Improved Practice

The following suggestions, based on the findings, have been offered to teachers, heads of SHSs and government to improve practice.

1. Teachers should:
 - i. give students breaks when possible and have them move around during those breaks;
 - ii. provide hands-on learning experiences to students when possible (using models, charts, graphs etc.);
 - iii. provide outdoor learning opportunities for students when a particular lesson calls for it;
 - iv. teach concepts through games and projects;
 - v. have students answer questions (during class) on the board and use dance, play, role play activities to reinforce learnt concepts.

- vi. avoid methods and tasks that promote rote learning since *thinking without learning is dangerous*.
- vii. use student-centred methods to help visual and auditory students develop meta-cognitive learning strategies;
- viii. give tasks that require '*further search*' to develop visual and kinaesthetic students' preference for resource m. LSs.
- ix. use specific engaging tactics to deal with the varied student learning styles in the classroom. For instance, while they could engage auditory students in small group conversations, they could provide kinaesthetic students with hands-on learning opportunities, and provide visual cues to visual students to alert students to important information.
- x. maintain a supportive relationship with students to increase their motivation and build confidence in their learning abilities.

2. Also, head teachers should:

- i. encourage teachers to come together to support one another through peer coaching.
- ii. exercise their instructional supervisory roles to ensure that teachers are doing the right things in the class;
- iii. must encourage students to set learning goals for themselves, monitor their own learning activities.
- iv. play a role in motivating students to learn to achieve their career goals and develop their full potentials.

- v. encourage students to make judicious use of their time.
3. The Ministry of education should:
- i. through the Ghana Education Service (GES) should organise instructional workshops/seminars on regular basis for SHS Economics teachers to equip them with the skills of teaching in the 21st century.
 - ii. look again at the objective-based model of curriculum development which overemphasises the passing of exams;
 - iii. improve upon infrastructure; and through the GES ensure that only SHSs with the required infrastructure are licensed to operate;
 - iv. all students (day/boarder/hostellers) are provided with the conducive environment for learning.

Contributions to Knowledge

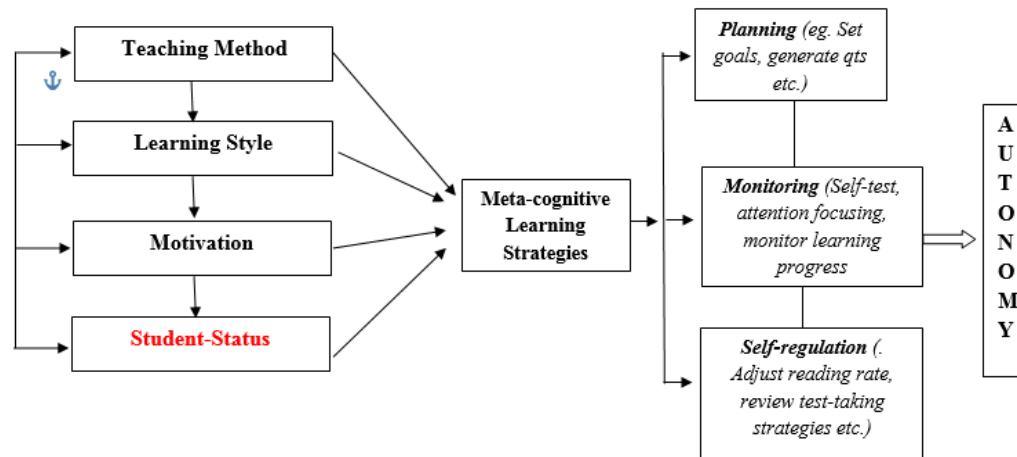
The study contributes immensely to knowledge generation in the area of student learning in the following ways:

- a. It provides priceless compact of ideas, facts and figures that could be relied upon and used by academics, school managers, teachers, parents, students, and other practitioners in understanding the dynamics of relationships and consequential effects between the explanatory variables (sex, motivation, school type, learning style, student status, and teaching method) and student learning strategy use.
- b. The study provides insight into student and school factors that impinge on learning strategy use in both public and private SHSs contexts.

- c. The empirical investigation into the relevant factors influencing learning strategy use showed varied outcomes with respect to sex. However, this study has shown that sex does not influence students' learning strategy use thus making a new discovery opposed to the one in the literature. The implication is that there is no basis for any sex discriminatory school arrangement aimed at improving student learning. Given that most of the studies carried out on learning strategy use related to those in the languages, this research is, if not first, one of the first of its kind to be conducted in Ghana to explore major issues relevant to SHS education. Thus, this study therefore provides a reference benchmark to which studies elsewhere can be applied to student learning strategies in Ghana.
- d. Previous studies on the subject sought to explain students' learning strategy use as a function of other individual's personal characteristics different from the ones used in this study. Therefore, this study provides scientific research opportunities for further researchers on the field to expand the frontiers of knowledge germane to the field of student learning; be it at the SHS level or higher.
- e. This study undoubtedly also serves as an eye opener to future researchers in the conduct of research into other regions in Ghana to ascertain whether students in those regions significantly differ in their learning strategy use from what has been found in the Central Region.
- f. Above all, adoptable policies and strategies for enhancing student learning irrespective of whether they are boarders or day students such as the proposal

made by student participants in this study for the creation of community learning centres and the active involvement of parents in the learning of students among others are novel ideas which could be credited to this study.

Above all, based on the findings, I developed a conceptual model aimed at producing autonomous SHS Economics students as presented in Figure 7.



A conceptual model for producing autonomous SHS economics students

Source: Owusu (2018).

Figure 7. A model for developing students’ meta-cognitive learning strategies.

Source: Author Construct, 2019.

Explanations to the Model

The model hypothesises that if a country’s desire is to produce autonomous, self-directed learners, then the teacher must use active student-centred methods, which are in concert with their learning styles, to maintain a supportive relationship with them. When that is achieved, it will intrinsically motivate students to study using meta-cognitive strategies thus, neutralizing the adverse effects of their status (either as a day student, a boarder or a hosteller). Their use of meta-cognitive learning strategies will now be characterised by

planning, monitoring, and self-regulated activities which showcase autonomous students.

Recommendations

Based on the findings of the study, the following recommendations are made. The recommendations are directed to teachers, heads, curriculum designers, and government to improve practice and enhance student learning.

1. Since most of the Economics students were kinaesthetic learners, teachers should provide opportunities for students to be active in class thereby develop their creativity and meta-cognitive learning strategy use. Again, school heads should encourage teachers to use methods that actively engage students.
2. Visual and auditory students were inclined to using cognitive strategies and so teachers should be encouraged, not only to provide visual and audio materials to students but should make sure that they make their lessons student-centred.
3. There is a need to consider having curriculum innovation to include the teaching of meta-cognitive learning strategies to students. It is high time curriculum experts in Ghana started to think about this so that students who have difficulties adopting meta-cognitive learning strategies could be helped out. In fact, given that school type, motivation, and teaching method in this study predicted students' use of meta-cognitive learning strategies, plans must be rolled out to include curricular programmes that teach students the use of meta-cognitive learning strategies. This step would ensure that the school system produces very apt graduates capable of applying their acquired knowledge and skills in solving practical problems. This when done, would

help reverse the low trends in performance of Economics students at the WASSCE, and the desire to improve performance in Economics would be attained.

4. In respect of the finding that motivation was key to students' use of cognitive learning strategies, teachers, heads of SHSs, school counsellors, parents, and other stakeholders in the education of the student should synergize their efforts to ensure that students select programmes based on their inherent interests.
5. A major finding of the study was that school type, motivation, the teaching method, and learning styles were critical in helping students develop meta-cognitive learning strategies. With respect to school type, school managers should endeavour to provide the necessary learning environment to improve student learning. Often times, there seem to be disparity in infrastructural stock between public and private schools. Most of the private schools tend to lack the basic infrastructure and this influence students learning. Therefore, government, through the National Accreditation Board (NAB) must inspect and ensure that private schools have the fundamental infrastructure necessary for learning before such schools are cleared. The reason is that 'depraved' learning environments do not support student learning. Also, with respect to teaching method, teachers should ensure that their teaching methods are underpinned by knowledge of co-construction philosophy which emphasizes teachers and students as generators of knowledge. On learning styles, since most of the Economics students had preference for kinaesthetic learning,

Economics lessons should be tailored towards student active participation. It is good for teachers to present visuals and speak for students to hear but they should move beyond this. School heads should, in this regard, help procure for teachers the teaching learning resources they require to make students active in class.

6. Another finding of the study was that students' status (as a boarder/hosteller or a day student) influenced their use of resource management learning strategies. Therefore, it is recommended that school authorities and parents provide day or boarding/hostel students with the necessary learning accoutrements to improve their learning. For instance, certain unwarranted rules and regulations must not be instituted to prevent students from making use of the human and other resources in learning. Students should be allowed under less restrict conditions to consult friends, libraries, colleagues, teachers among other learning facilities to enhance their learning. In this regard, government, through the G.E.S should ensure that rules and regulations in SHSs which are inimical to students' learning are censored.

Suggestions for Further Research

In order to further investigate perplexing issues in the area of student learning strategies, I suggest the following to future researchers in the field:

1. Further research should be conducted to explore the nuances of learning strategies between different programme areas using alternative approaches (other than what this study used) to ascertain if differences exist in the

learning strategy use among students in these programme areas at the SHS level.

2. A similar research should be conducted to investigate the consistency and variability of learning strategies in different subject areas at the SHS level.
3. A similar study should be conducted using larger sample size using the same methodology to ascertain whether differences exist in learning strategies of students.
4. A comparable study should be conducted using alternative methods and approaches to unravel issues which still surround learning strategies at the university level.
5. Since distance education is gaining currency among Ghanaian students today, it is suggested that a study be conducted in future to examine the learning strategies of adult learners in such programmes, with emphasis on probable factors that influence their strategy use using, perhaps, other research methods. Some of the factors which could be explored should include marital status, ethnic status, age, occupation, among others.
6. Another research could be conducted to investigate learning strategy use and students' performance among Economics students for different levels of students, using a quantitative methodology.

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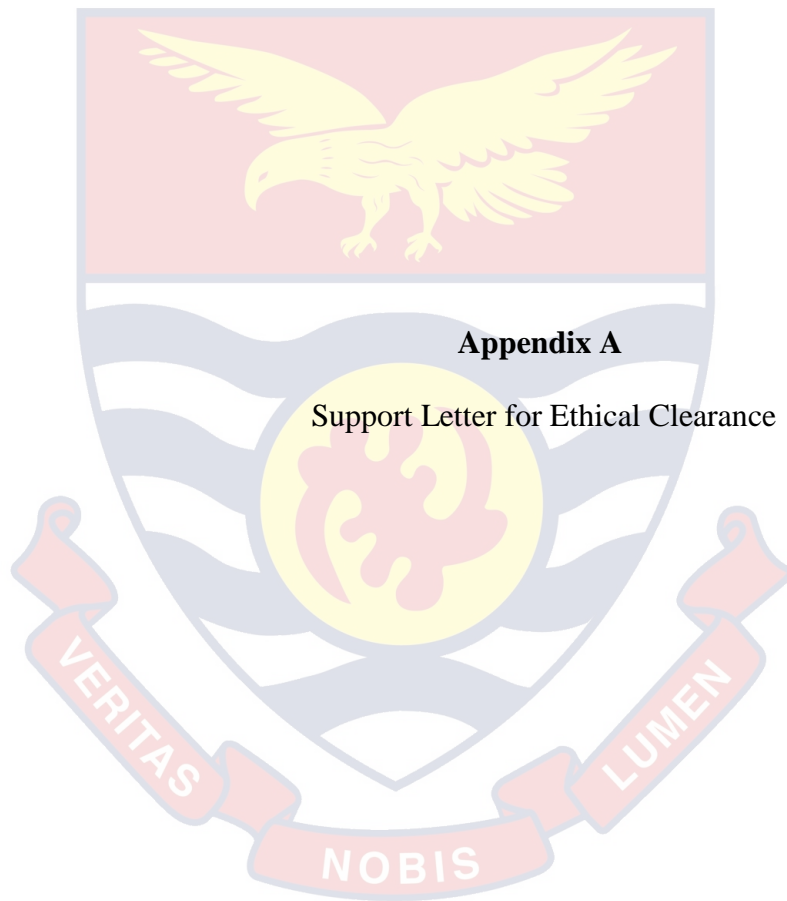
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APPENDICES



UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF HUMANITIES & SOCIAL SCIENCES EDUCATION

Department of Business & Social Sciences Education

TELEPHONE: +233 03321 35411/ +233 03321 32480/3,

EXT. (268), Direct: 35411.

Telegrams & Cables: University, Cape Coast.



University Post Office,
Cape Coast, Ghana.

OUR REF: DOBSSE/ED/ECT/14/0002

YOUR REF:

Date: 5th August, 2016

Dear Sir,

TO WHOM IT MAY CONCERN

SUPPORT COVER LETTER: ANTHONY AKWESI OWUSU

I write to confirm that the above named student with registration number ED/ECT/14/0002 is a PhD student in the Department of Business and Social Sciences Education, University of Cape Coast.

I also confirm that the Department is aware and approves of his study.

I will be grateful if you would offer him any assistance he needs.

Thank you.

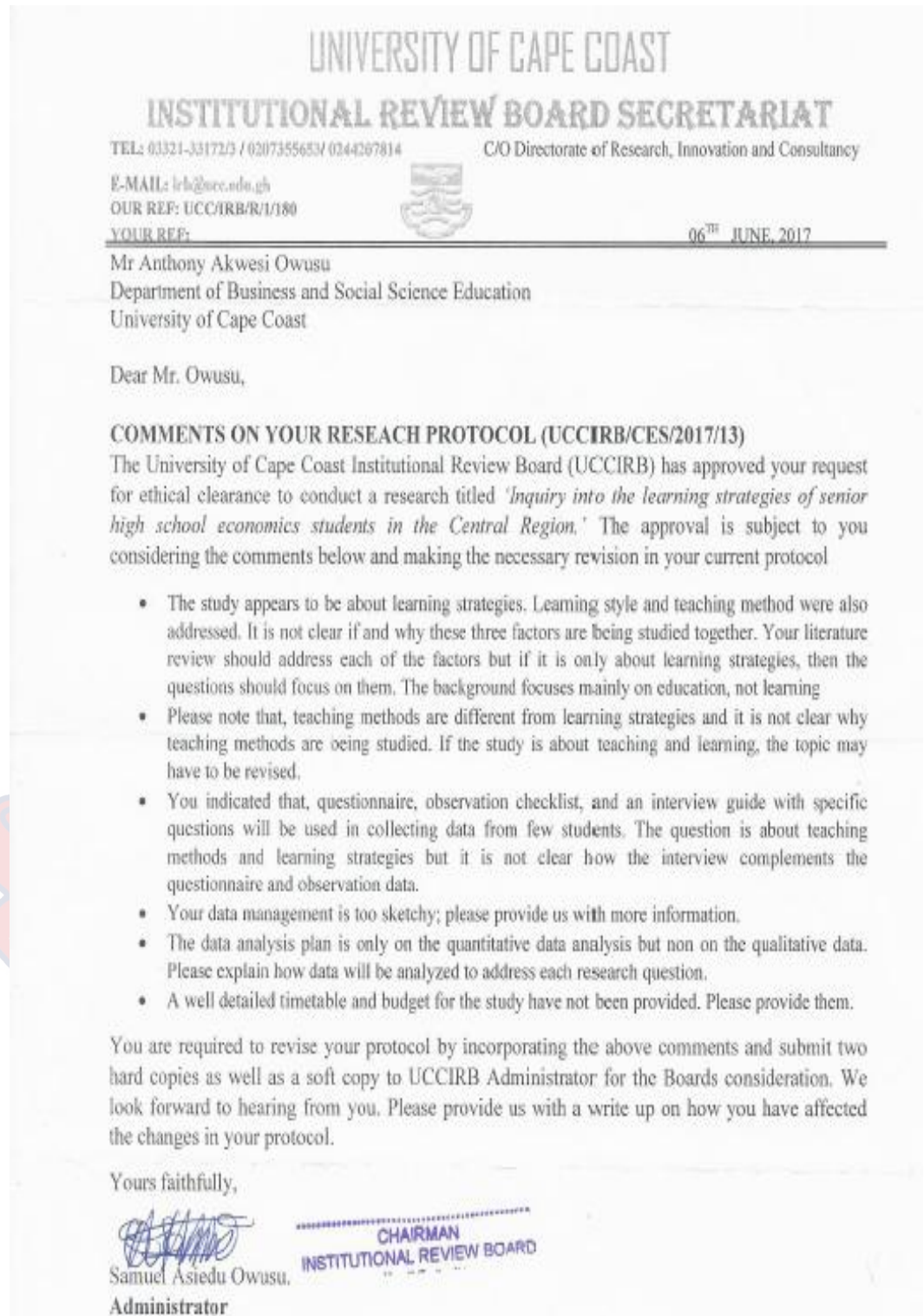
Yours faithfully,

ALHAJI DR. M.B. YIDANA
HEAD OF DEPARTMENT

HEAD
DEPARTMENT OF BUSINESS AND
SOCIAL SCIENCES EDUCATION
UNIVERSITY OF CAPE COAST
CAPE COAST, GHANA

Appendix B

Initial Report on Application for Ethical Clearance



Appendix C

Re-application for Ethical Clearance

UNIVERSITY OF CAPE COAST

MEMORANDUM

FROM: ANTHONY AKWESI OWUSU (ED/ECT/14/0002)
TO: THE CHAIR, IRB, UCC
SUBJECT: REVISED PROPOSAL FOR ETHICAL CLEARANCE
REF. NO: (UCCIRB/CES/2017/13)
DATE: 9th June, 2017

Your letter with Reference Number UCC/IRB/R/1/180 dated 6th June, 2017 refers.

In response, I wish to re-submit my application for ethical clearance. This memo seeks to provide explanations to some of the comments and also provide details on how the specific issues raised in respect of the earlier application have been addressed. Find the comments and how they have been explained/addressed in the table below.

Comments	Explanations/ How it has been addressed (page number where it can be seen)
<p><i>The study appears to be about learning strategies. Learning styles and teaching methods were also addressed.</i></p> <p><i>It is not clear if and why these three factors are being studied together.</i></p> <p><i>Your literature review should address each of the</i></p>	<p>The study is indeed about learning strategies but there is a clear distinction, according to Tabanlıoğlu (2003) between learning styles and learning strategies. A number of studies have shown that learning styles and teaching methods predispose students to learning strategy choice. According to Tamada (1996, p. 8), teaching methods influence students' choice of learning strategy. Also, according to Pei-Shi (2012), learning styles predispose students in the choice of a particular learning strategy. My focus in this study is therefore to find how these two independent variables, together with</p>

<p><i>factors but if it only about learning strategies, then the questions should focus on them.</i></p> <p><i>The background focuses mainly on education, not learning</i></p>	<p>others help explain learning strategy choice by Economics students. This explains my desire to study these factors.</p> <p>I have now reinforced the literature (see pages 13 – 14). Initially, I felt because it is the proposal, it need not contain too many details. However, with the comment, I have actually beefed it up. It has actually addressed each of the factors (both dependent and independent variables).</p> <p>A critical look at the background (from pages 1 to 5) reveal a successful attempt to link education to learning specifically, learning strategies. A word search shows 46 words counts (see pages 1 to 5) showing 'learning strategy' which is a key term of this study. Nonetheless, I have reinforced aspects of the background as have been suggested pending further discussions with my supervisors on the issue. (See second paragraph under Intro/Rationale).</p>
<p><i>Please note that, teaching methods are different from learning strategies and it is not clear why teaching methods are being studied.</i></p> <p><i>If the study is about teaching and learning, the topic may have to be revised.</i></p>	<p>It is true that teaching methods are different from learning strategies. In this study, based on the literature, teaching method is being examined as an endogenous (independent) variable influencing the choice of learning strategy. As already mentioned, Tamada (1996, p. 8) found teaching method as a factor influencing learning strategy choice among Japanese students (see the literature section i.e. pp. 13 - 14).</p> <p>With regard to the alteration of the topic, since the research process is cyclical and interactive, the topic might change slightly eventually to reflect issues being investigated. This will be done in consultation</p>

	with my supervisors when the need arises.
<p><i>You indicated that the questionnaire, observation checklist, and an interview guide with specific questions will be used in collecting data from few students.</i></p> <p><i>The question is about teaching methods and learning strategies but it is not clear how the interview complements the questionnaire and observation data.</i></p>	<p>I indicated rather that 'interview schedules' will be used and not 'interview guide' (see the entire sections under research methods).</p> <p>As can be gleaned from Table 5 (Summary Presentation of Statistical Analysis Procedure for the Study), the interview will complement the questionnaire. For instance, in answering the question on teaching methods (RQ 1), at the quantitative phase, students will complete questionnaires with closed-ended items eliciting data on the teaching methods of Economics teachers. At the second (qualitative phase), Economics class sessions of three of the participating schools will be observed to find out the methods teachers use in teaching. Lastly, six students will be interviewed on the teaching methods of teachers. From these, it is clear the different data sources complement each other in answering RQ 1.</p>
<p><i>Your data management is too sketchy; please provide us with more information.</i></p>	<p>The data management is actually imbedded in the data processing and analysis. This has been revised in line with the suggestion (see first paragraph of page 27 to 28).</p>
<p><i>The data analysis plan is only on the quantitative data analysis but not on the qualitative data. Please explain how data will be analysed to address each research question.</i></p>	<p>The data analysis for qualitative analysis has also been revised (see pages 33 to 39). Again, steps have been taken to explain how both quantitative and qualitative approaches methods will be analysed to address the research questions and hypotheses (see Tables 5 & 6).</p>

<p><i>A well detailed timetable and budget for the study have not been provided. Please provide them.</i></p>	<p>A detailed timetable and budget have been provided as suggested (see pages 46 to 49).</p>
---	---

Thank you



Signed: **ANTHONY AKWESI OWUSU (PhD Curriculum & Teaching)**
(ED/ECT/14/0002)



Appendix D

Ethical Clearance from IRB, UCC

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 03321-331723 / 0207355053/ 0244207814

C/O Directorate of Research, Innovation and Consultancy

E-MAIL: irb@ucc.edu.gh

OUR REF: UCC/IRB/A/2016/142

YOUR REF:

OMB NO: 0990-0279

IORG #: IORG0009096



15TH JUNE, 2017

Mr Anthony Akwesi Owusu
Department of Business and Social Science Education
University of Cape Coast

Dear Mr Owusu,

ETHICAL CLEARANCE –ID :(UCCIRB/CES/2017/13)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for the implementation of your research protocol titled ‘ **Inquiry into Learning Strategies of Economics Students in Senior High Schools of the Central Region.**’

This approval requires that you submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the UCCIRB for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'S. Owusu'.

Samuel Asiedu Owusu
Administrator

.....
ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST
Date:.....


Appendix E

Introductory Letter to Participating Schools

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES & SOCIAL SCIENCES EDUCATION
Department of Business & Social Sciences Education

TELEPHONE: +233 03321 35411/ +233 03321 32480/3.
EXT. (268), Direct: 35411.
Telegrams & Cables: University, Cape Coast.

University Post Office,
Cape Coast, Ghana.



Date: 24th July, 2017

OUR REF:
YOUR REF:

Dear Sir/Madam

TO WHOM IT MAY CONCERN


The bearer of this note is a student of this Department. He intends collecting data to enable him write his thesis on the topic "INQUIRY INTO LEARNING STRATEGY OF ECONOMICS STUDENTS IN THE SENIOR HIGH SCHOOL OF THE CENTRAL REGION" as part of the requirement of his programme of study.

His mission is purely academic and this may eventually result in an improvement of teaching and learning in our school. Kindly assist him in accomplishing this work.

1. Anthony Akwesi Owusu

Thank you.

Yours faithfully,


Alhaji Dr. M. B. Yidana
Head

Appendix F

Questionnaire

SECTION 2

METHODS TEACHERS USE TO TEACH ECONOMICS

Kindly indicate by choosing one of the options how frequently your Economics teacher engages in the following activities. The items are measured on a five-point scale ranging from ‘Always =4 to Never =0. The key for measuring the items are provided below:

Always [4]	Often [3]	Sometimes [2]	Rarely [1]	Never [0]
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1. My teacher engages us actively by using self-directed learning while he/she only assumes the role of a facilitator..... 4 3 2 1 0
2. The tasks my teacher assigns us require analytical thinking, and problem-solving4 3 2 1 0
3. My teacher helps us to learn Economics concepts through brainstorming and he/she ensures a non-threatening atmosphere for learning4 3 2 1 0
4. My teacher makes us narrate our personal experiences through discussions in Economics..... 4 3 2 1 0
5. Teacher uses lecture and does all the talking in class.... 4 3 2 1 0
6. In all, how would you describe your teacher’s teaching method?
 Student-centred [] teacher-centred []

SECTION 3

STUDENTS’ LEARNING STYLES

Students learn in many different ways. For example, some students learn mainly with their eyes (visual learners) or with their ears (auditory learners); some others prefer to learn by experience and/or by “hands-on” tasks (kinaesthetic learners). This questionnaire has been designed to help you identify the way(s) in which you learn best. Read the statement and indicate whether you agree or disagree with it by circling the appropriate number using the key provided below.

Strongly Agree [4]	Agree [3]	Undecided [2]	Disagree [1]	Strongly Disagree [0]
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1. I learn better by reading what the teacher writes on the board 4 3 2 1 0
2. When I read instructions, I remember them better..... 4 3 2 1 0
3. I learn more by reading textbooks than by listening to lectures..... 4 3 2 1 0
4. When the teacher gives me instructions I understand better. 4 3 2 1 0
5. I remember things I hear in class better than things I read. 4 3 2 1 0
6. I learn better in class when the teacher gives a lecture..... 4 3 2 1 0
7. I learn better in class when I listen to someone..... 4 3 2 1 0
8. When I do things in class, I learn better.
9. I enjoy learning in class by doing experiments.
10. I understand things better in class when I participate in role-playing..... 4 3 2 1 0
11. I learn best in class when I can participate in related activities..... 4 3 2 1 0

Now, carefully read the statements and indicate by ticking the appropriate **AGREE** box to show your preferred (dominant) way of learning Economics. Ticking a box implies that you agree with the statements indicated.

Learning styles	Agree
1. I learn better by reading what the teacher writes on the board.	<input type="checkbox"/>
2. When I read instructions, I remember them better.	<input type="checkbox"/>
3. I learn more by reading textbooks than by listening to lectures.	<input type="checkbox"/>
4. When the teacher gives me	<input type="checkbox"/>

<p>instructions, I understand better.</p> <p>5. I remember things I hear in class better than things I read.</p> <p>6. I learn better in class when the teacher gives a lecture.</p> <p>7. I learn better in class when I listen to someone.</p>	
<p>8. When I do things in class, I learn better.</p> <p>9. I enjoy learning in class by doing experiments.</p> <p>10. I understand things better in class when I participate in role-playing.</p> <p>11. I learn best in class when I can participate in related activities.</p>	

SECTION 4

LEARNING STRATEGIES

Kindly indicate by choosing one of the options how true the following statements are about you. The items are measured on a five-point scale ranging from ‘Very true of me =4 to Never true of me =0 and you are expected to choose only one option under each question. The key for measuring the items are provided below:

Very true of me [4]	sometimes of me [3]	Neutral [2]	Rarely true of me [1]	Never true of me [0]
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1. I often repeat materials I have learnt aloud..... 4 3 2 1 0
2. I copy every learnt material in Economics and selectively take verbatim notes when learning 4 3 2 1 0

3. I memorise key words to remind me of important concepts learnt 4 3 2 1 0
4. In learning, I underline most important parts of concepts. 4 3 2 1 0
5. I recite items learnt in Economics in order to activate information in my working memory 4 3 2 1 0
6. In studying Economics, I pull together information from different sources, such as textbook readings and discussions 4 3 2 1 0
7. I try to relate ideas in Economics to those in Math and other subjects whenever possible to better learn Economics..... 4 3 2 1 0
8. I relate Economics materials learnt to what I already know..... 4 3 2 1 0
9. As a tactics for learning Economics, I paraphrase and summarise main ideas 4 3 2 1 0
10. To enhance what I learn in Economics, I answer a lot of past questions..... 4 3 2 1 0
11. In studying Economics, I deliberately outline the materials to help me organise my thoughts in order to build connections 4 3 2 1 0
12. I make use of simple charts, tables, and diagrams in order to organise my thoughts better in Economics 4 3 2 1 0
13. I select the main ideas in Economics materials consciously connect them through summary through charts and diagrams..... 4 3 2 1 0
14. Whenever I read or hear an assertion or conclusion in an Economics class, I organise my thought and think about possible alternatives 4 3 2 1 0
15. I set learning goals in learning Economics 4 3 2 1 0
16. I quickly read all materials learnt and out of it, I generate questions on my own 4 3 2 1 0
17. During each term, I develop study plan to which I

follow religiously	4	3	2	1	0
18. I have a well defined schedule for learning Economics.....	4	3	2	1	0
19. I intentionally always check myself to ensure that I have comprehended every concept in Economics	4	3	2	1	0
20. I track my attention rate as I learn materials in Economics	4	3	2	1	0
21. I self-test the questions I am able to generate on my own as a devise of learning Economics	4	3	2	1	0
22. I usually use test-taking strategies in learning Economics...	4	3	2	1	0
23. I review my test-taking tactics often to ensure learning progress in Economics	4	3	2	1	0
24. I seek out information in Economics on my own when there is a need to do so	4	3	2	1	0
25. I persist at difficult concepts (such as national income computation) and tasks and devise strategies to master them	4	3	2	1	0
26. I am able regulate my thoughts, feelings, and actions and manage these to learning of Economics	4	3	2	1	0
27. I draw on my previous learning experiences to build a range of beliefs that aid my learning	4	3	2	1	0
28. I study in line with the Economics syllabus requirements...	4	3	2	1	0
29. I make good use of my study time for Economics.....	4	3	2	1	0
30. I find it hard to stick to a study schedule	4	3	2	1	0
31. I find that I don't spend very much time on Economics because of other activities	4	3	2	1	0
32. I keep designated learning outlets clean and pleasant for learning	4	3	2	1	0
33. I entreat my colleagues not to create nuisance at learning centres.....	4	3	2	1	0
34. I prefer to study in a quiet atmosphere than in a noisy one	4	3	2	1	0
35. I put in my best to realize the desire to accomplish					

my study goals	4	3	2	1	0
36. I feel so lazy or bored when I am studying for Economics such that I quit before I finish what I planned to do	4	3	2	1	0
37. I learn hard to do well in Economics even if I do not like the topics we are taught	4	3	2	1	0
38. When some topics prove difficult, I give up and only study the easy parts	4	3	2	1	0
39. Even Economics materials to be learnt become 40. uninteresting, I still manage to keep learning it till mastery is attained	4	3	2	1	0
41. In studying Economics, I try to explain concepts to a colleague or a friend as way of retaining the facts	4	3	2	1	0
42. I study Economics through group discussions of learning experiences with other colleagues in my class.....	4	3	2	1	0
43. Even if I have trouble grasping some economic concepts, I do not seek help from any one	4	3	2	1	0
44. I regularly ask my teacher to or a colleague (out of the class) to clarify concepts I do not understand well	4	3	2	1	0
45. I feel shy approaching a colleague of the opposite sex to help clarify complex Economics concepts to me....	4	3	2	1	0

Thank you for your cooperation!!!

Appendix G

Observation Schedule

Title of Study	Teaching Methods and Learning Strategies of Economics in Senior High Schools in Central Region of Ghana.
Date:	
Session Number:	
School:..... (A, B, C)	
Rater: (A/B)	

The researcher observed teachers by focusing on some of the parameters outlined below:

Content Organisation	YES	NO
1. Made clear statement of purpose of the lesson.	[]	[]
2. Shared lesson objectives with class	[]	[]
3. Defined relationship of the lesson in question in relation to the previous lesson.	[]	[]
4. Presented overview of the lesson.	[]	[]
5. Presented topics in a logical sequence.	[]	[]
6. Paced lesson appropriately.	[]	[]
7. Summarised major points of the lesson.	[]	[]
8. Responded to problems raised during lesson.	[]	[]
9. Related today's lesson to future lessons.	[]	[]

Comments:.....

Use of resources and Learning environment	YES	NO
1. Maintained adequate classroom facilities.	[]	[]
2. Prepared students for the lesson with appropriate assigned readings.	[]	[]
3. Supported lesson with useful classroom discussions and exercises.	[]	[]
4. Presented helpful audio-visuals to support lesson organisation and major points.	[]	[]
5. Provided relevant written assignments.	[]	[]

Comments:.....

Teaching method	YES	NO
1. Used lecture.	[]	[]
2. Used interactive lecture.	[]	[]
3. Used brainstorming.	[]	[]
4. Encouraged collaborative learning.	[]	[]
5. Used case studies.	[]	[]
6. Related new ideas to familiar concepts.	[]	[]
7. Varied explanations for complex and difficult material.	[]	[]

Comments:.....

.....
.....
.....

Teacher-student interactions

YES NO

- | | | |
|--|-----|-----|
| 1. Encouraged student questions. | [] | [] |
| 2. Encouraged student discussions. | [] | [] |
| 3. Maintained student attention. | [] | [] |
| 4. Asked questions to monitor student's progress. | [] | [] |
| 5. Gave satisfactory answers to student questions. | [] | [] |
| 6. Responded to nonverbal cues of confusion, boredom, and curiosity. | [] | [] |
| 7. Encouraged students to answer difficult questions. | [] | [] |
| 8. Asked probing questions when student answer was incomplete. | [] | [] |
| 9. Restated questions and answers when necessary. | [] | [] |

Comments on the overall impression about the class

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Appendix H
Interview Schedule

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES AND SOCIAL SCIENCES EDUCATION
DEPARTMENT OF BUSINESS AND SOCIAL SCIENCES EDUCATION

Interview Schedule for Students

Introduction

1. Could you please identify yourself?
2. Are you a boarder/hosteller or a day student?
3. Do you find your study of Economics interesting or difficult? What reason(s) explain your answer?
4. What is your reason for studying Economics? Does this reason/motivation influence the way you learn in any way?

Part 1: Teaching methods

1. a. What sort of classroom activities do you often find your teacher engage in when he/she is teaching?
b. In what way(s) do these activities engage actively you/ support your learning?
c. Do you enjoy your teacher's lesson? Why?
2. a. In what way(s) would you say your teacher's teaching method promote or discourage active learning?
b. Do you find their teaching method student-centred or teacher centred?

Part 2: learning styles

1. a. How do you want to acquire information? Some people prefer to learn new things by seeing, hearing it or doing it. Which of the styles apply to you?
- b. Why do you want to learn the way you have indicated in 1a?

Part 3: Learning Strategies

1. What are some of the things you do to rehearse what you are taught in class in Economics?
2. a. What do you do to rehearse/absorb what you are taught in class? (*make list and memorize/ you apply ideas from other subject areas*)
- b. How are you able to organise learnt concepts of Economics? (*Is it reading your notes and finding important ideas*)
3. Do you have an elaborate plan (at the beginning of every term) to follow in studying Economics? Can you outline some of these plans?
4. How do you assure yourself that you understand every concept you have learnt in Economics?
5. In what ways do you monitor your learning activities? Can you share some of these with me?
6. In learning Economics, do you come out with your own questions to help you focus and understand concepts? How are you able to do this?
7. Do you self-test with your own questions and past questions too? How are you able to do it?
8. What do you do if you are confronted with difficult topics in Economics? Do you give up or what?
9. Do you set goals for yourself in the study of Economics? How do ensure that these goals are fully achieved?

10. In your study of Economics do you rely on what is stated in the syllabus or you have other materials you rely on?
11. How do you manage your time in studying?
12. a. Do you have a designated place for learning?
b. Where do you prefer to study and why?
13. When you find some topics difficult in the syllabus, what do you do?
14. Would you say you learn hard to pass Economics? Why?
15. What do you do to get other colleagues' help in learning Economics?
16. Do you feel shy when asking for help from a colleague of the opposite sex? Why?
17. Have your school and your status as (**day/boarder/hosteller**) influenced your learning in any way? How?
18. How best do you think you can learn Economics and by what strategy?

Closure

1. What would be your suggestions on how students could improve their learning of Economics?
2. What suggestion(s) would you give to your school authorities to improve learning of Economics?
3. Which other information would you like to share with me on this subject?

Appendix I

Interview Transcripts

Profile of Interview Participants

Three males and three females were purposively selected from the participating schools for the interviews. They comprised three boarders and three day-students aged averagely 18 years. Four of these students were selected from the public schools whereas two came from the private schools. For purposes of confidentiality, ES2, ES3, and ES4 were day students while ES1, ES5, and ES6 were boarders

INTERVIEWEE 1 [ES1]

INTERVIEWER: Can you please identify yourself.

RESP: I am Angela..... I am seventeen years old and offering the General Arts programme and in my third year.

INTERVIEWER: Are you a boarder or a hosteller?

RESP: I am a boarder.

INTERVIEWER: How have been studying Economics for some time now. How do you find your study of Economics?

RESP: Sir.....errrrhmm at times it's interesting and at times challenging.

INTERVIEWER: Why interesting?

RESP: When we understand what the teacher is teaching and at times too, there are some topics, we wouldn't understand ... and you have to do your personal research and that makes it challenging.

INTERVIEWER: So it means not all the topics are kind of friendly or...?

RESP: Yea..., yea, there are some you have to do more research about it.

INTERVIEWER: So can you give me some examples of topics that pose challenge to students in the Economics syllabus?

RESP: Not that difficult: you will get to understand. There are some places you wouldn't understand. Like supply issues. And we don't do much on the calculations. We feel a bit challenge with the calculations but the theory aspect, we are okay.

RESP: With the calculations, they just give us the formula and do not give us at least an example. We would like to give more examples but they don't to be familiar with the calculations.

INTERVIEWER: What makes the study of Economics interesting?

RESP: When you take it outside the classroom, it is part of what goes on around us and that's why.

INTERVIEWER: What therefore is/are the reason (s) why you have decided to study Economics? Does this motivation influence the way you learn in any way?

RESP: because of the future job I want to do. My parents also advised me to do my programme.

INTERVIEWER: Does your teachers' method of teaching influence your learning strategy? How?

RESP: Yes sir because it makes me use the right strategy in order to pass my exams.

TEACHING METHODS

INTERVIEWER: what sort of class activities do you often find your teacher engaging in when they are teaching?

RESP: Errm, sir... they teach us and if we don't understand, maybe a point he has reached, he explains it and at times too he asks us to explain. So it is like the teacher-student relationship.

INTERVIEWER: so in your view, who does more of the talking?

RESP: It's vice versa: we all do the talking. At times, we challenge the issues so we also talk.

INTERVIEWER: so Economics lessons are interesting because of the interactions?

RESP: yes, and at times he cracks jokes to ease tension in the class and this makes students in the class more active.

INTERVIEWER: in what way(s) do these activities engage students?

RESP: Yea, he gives us group work which engage us a lot, assignment and other stuff so we always go and research on it. We engage also in the classroom discussions and all these activities help us to learn.

INTERVIEWER: What method would you have preferred that your teacher used instead of what he is using now to make you learn better?

RESP: For me, I think it's okay. What he is doing is okay for me. He compares notes from other books and gives it to us.

INTERVIEWER: Do you have Economics textbooks endorsed by the GES for use?

RESP: Yea, I think it is called 'simplified Economics.

INTERVIEWER: Do you enjoy your teacher's lesson?

RESP: Yes

INTERVIEWER: Why?

RESP: There are a lot of interactions which make you active because at times you feel down so when you are down and they throw a question to you, you will be conscious. You see your friends also bring out ideas together and so it makes the class lively and enjoyable.

INTERVIEWER: In what way will you say your teacher's teaching method promotes active learning?

RESP: we are active in the class

INTERVIEWER; Do you find your teacher's method of teaching teacher-centred or student-centred?

RESP: As I said, we do interactions and so it's 50:50. We all engage in it.

INTERVIEWER: If given the chance, will you choose any other subject over Economics?

RESP: I love the subject but I love music too. I will have done music in place of Economics though I like Economics too.

INTERVIEWER: Were you forced therefore to do Economics? What were your reasons for doing Economics?

RESP: No sir I was not forced. I don't think I was forced but as a I said earlier on, it is because of the job prospects too.

LEARNING STYLES

INTERVIEWER: How do you want to acquire information? I mean do you prefer to learn things by seeing it or hearing it or doing it.

RESP: Sir, normally, I like to learn by doing something; because when you do something, you don't easily forget. It is better than seeing or hearing it from someone.

LEARNING STRATEGIES

INTERVIEWER: What do you find yourself doing (outside the classroom) to remember or retain what teachers teach in Economics?

RESP: as in the case of demand and supply topic, at times it will be like you are doing a practical thing so so I apply the theory knowledge to get what I am taught and this helps me a lot.

INTERVIEWER: Apart from this, when it's time for class tests, do you 'chew and pour'?

RESP: You revise what the teacher taught you. You go for prep so it wouldn't be because of test, you've learnt already so you just revise.

INTERVIEWER: How do you learn?

RESP: You read through what the teacher has taught and you try to memorize. Something like you try to remember the things.

INTERVIEWER: in so doing, you sometimes self-test?

RESP: Yea, at times in my class after learning, we set trial questions for ourselves, and we try to answer it.

INTERVIEWER: Do you also sometimes put yourselves into groups for the purpose of learning?

RESP: no sir, only that some do extra classes after closing.

INTERVIEWER: Any other way you learn?

RESP: Sir, okay...ermhh, sometimes you help your friend who didn't understand and that helps me to learn and get whatever I have learnt.

INTERVIEWER: Do you make use of other facilities like books, library and others in learning?

RESP: yes sir. We have a library and we all go there when it's time to learn.

INTERVIEWER: can you make a list of how you learn? [someone enters and knocks. Interview is paused for a minute]

RESP: I memorize, I read through notes, and I help others at times. At times, I also go to other people to learn from them. Our teachers are many so at times, with the calculations, another teacher has taught something which your teacher hasn't taught. You have to consult your other friends for them to teach you.

INTERVIEWER: Do you have a particular people you go to? Do you consider their sex, say you go to only males or females?

RESP: If you have a friend (whether male or female) and you think he/she can help you, you go to the person. What you need is help.

INTERVIEWER: Do you also sometimes learn Economics by applying concepts from other subject areas?

RESP: Yea, yea, like mathematics, core math, in change of subject substitution in equations, we apply math concepts in Economics. I remember when I first came to the Economics class, our then teacher told us that Economics is full of mathematics.

INTERVIEWER: Do you have a plan at the beginning of every term that you follow in studying Economics?

RESP: Yes sir. The teachers give us the topics for each term and soon from it I plan my personal time able but I have not done that for this term because of extra classes I attend this term. I get tired when I come back.

INTERVIEWER: In trying to learn, how do you assure yourself that you grasp the concepts?

RESP: Sir, when you get to understand the teacher talk, then you learn you get to understand what you were taught.

INTERVIEWER: What do you do anytime you are confronted with difficult topics in Economics?

RESP: You will go to a teacher for help.

INTERVIEWER: What else?

RESP: and your friends as well

INTERVIEWER: So you don't abandon the topic?

RESP: No, because you don't know where you will meet it again; when you are going to write the exams you wouldn't know which one that will come/

INTERVIEWER: Do you have an advantage in learning as a boarder over day students?

RESP: Yea,...because being a day student, there's no time schedule and that stuff. Boarders have scheduled times for learning unlike day students. and then I think some of the boarders are more serious than the day students.

INTERVIEWER: Do you set goals for yourself? That this term in Economics, I don't want to get anything below this or that mark?

RESP: Yea, we set goals.

Q; And how do you make sure that these goals are achieved?

RESP: Sir, you studying very hard to achieve that goal you learn hard and that is what I do sir.

INTERVIEWER: In studying Economics do you rely on what is in the syllabus or what you see in other materials?

RESP: Me, I've never seen the syllabus but I rely on the textbooks I have and what the teacher also gives us.

INTERVIEWER: Do you have a particular place for learning?

RESP: Yea,...errh I have a class where I learn and at times I change because sometimes that class is too noisy and so I go to a friend's class. So it depends.

INTERVIEWER: Where will you normally want to learn? A quiet or a noisy environment?

RESP: A good environment. When it's prep time, all the place is quiet. It is very good.

INTERVIEWER: Would you rate yourself among the best Economics students?

RESP: good sir. At times you fall, at times you rise

INTERVIEWER: Would you say you put in so much effort in order to pass Economics?

RESP: Yes sir.

INTERVIEWER: do you feel shy calling on someone to help you clarify doubts in economic concepts?

RESP: No, you feeling shy will not help you understand so you have to open up and get help.

INTERVIEWER: even when you are approaching a male?

RESP: no

INTERVIEWER: is your school influencing your learning in any way?

RESP: yes, its facilities help me to learn.

CLOSURE

INTERVIEWER: what suggestions will you offer on how students can be helped to better learn Economics?

RESP: Emmrh, sir, conduct extra classes. Although many wouldn't join, a few will join which will help. Also, sir, textbooks too.

INTERVIEWER: What about your teacher's method?

RESP: Since my teacher uses the right method, I think it's okay.

INTERVIEWER: What will you suggest to your headmistress for instance?

RESP: She should motivate teachers. Some of the teachers are not motivated and so they don't give off their best.

INTERVIEWER: Would you say you're your school type influences your learning strategy choice?

RESP: Yes, I think because schools differ and the differences influence how students learn.

INTERVIEWER: Anything you wish to ask more anything you will like to share with me?

RESP: No

INTERVIEWER: It's been nice talking to you. Thank you very much.

INTERVIWEE 2 [ES2]

INTERVIEWER: I want you to briefly introduce yourself.

RESP: I am Peter from the 3B2 class. I offer business as I earlier introduced myself. As a business student, I study Economics too. I am twenty years old and a final year student.

INTERVIEWER: so, you are a day student?

: Yea, I am a day student.

INTERVIEWER: how do you commute daily to school? Do you board a car...or you stay in town here?

RESP: I have rented a place in town

INTERVIEWER: Oh ok, not far from here?

RESP: Not too far

Q; Alright...eeermm so you study econs?

RESP: Yea,

INTERVIEWER: How do find the study of econs? Is it difficult, interesting, why do you say so? Is it difficult? Why do you say so?

RESP: I will say Economics is interesting. Because if you study Economics, you will know how to manage your resources even if your parents did not have much resources to cater for you. You can manage that little resources that your parents will get for you and then outside or in the country koraa, you will know how to manage.

INTERVIEWER: So it is not difficult?

RESP: Economics, I will say it's difficult a little because if you look at the syllabus, the topics are plenty and Economics deals with a lot of definitions and diagrams. Eeerh, even I can compare it with the other subjects that Economics [*the school siren sounds for change lesson at 11:40am*] is the most subject which has more notes.

INTERVIEWER: So you think the syllabus is too loaded? You do so many things within the three years?

RESP: Yea,

INTERVIEWER: And this puts so much stress on you?

RESP: Yea, because if a teacher come and teach us, so see the topics it comprises a lot and the notes that will be given to us is so plenty and when you go home and you did not learn, that very so topic that the teacher taught, the next time he will add some to it ... it happens like that we can't learn all so it becomes difficult for us.

INTERVIEWER: But hope you are coping all the same?

RESP: Yea, we are managing

INTERVIEWER: What is the reason or your motivation for studying Economics? And does this motivation influence your way of learning in any way?

RESP: Ok...me my mission to my studies, in future I will become a professional. I study Economics so that if I grow in future, I will know how to manage my resources even when I have a little resources, I can utilize it effectively. My motivation is helping me to strive and get to my goals. Because I am so much motivated, I don't think about the challenges I face in learning. I have a study plan, I seek help from other mates, teachers when I face difficulty in my studies. it is all because of the motivation.

INTERVIEWER: So econs can help you to become a very good business manager in future?

RESP: Yea

INTERVIEWER: But if you were given the chance to drop econs as a subject, will you do it?

RESP: No, I will still maintain Economics because Economics helps a lot. It helps a lot.

TEACHING METHODS

INTERVIEWER: What kind of classrooms do you see your teachers engage you in?

RESP: Normally when the teacher enters the class, he can use a similar example in narrating the topic. That's erm, he can use narratives to introduce the topic, then after that he will write the topic on the board, then we will start discussing. But first of all, he will ask the idea that we have on the topic. Before then, he will give us what he has for us and then we copy notes on that. After that, when it's left with 20 mins or 30 mins, he will use that period to ask us past questions for us to answer.

INTERVIEWER: So he discusses, he sometimes asks questions and you brainstorm, and come out with your own ideas?

INTERVIEWER: Does he also give you problems for you to solve?

RESP: Yea

INTERVIEWER: What about group work, assignments and the like?

RESP: Yea, that's 30 mins before the subject ends he gives us past questions and assignments. In the classroom too we will be doing exercises early in the morning.

INTERVIEWER: so all these activities that he does with you, do they help you to learn?

RESP: It helps us a lot because the assignments make us learn too... because the more that you are doing the assignment, it refreshes your mind and you can even throw your notes aside.

INTERVIEWER: So you enjoy your teacher's lessons?

A; Yea, I enjoy it because as I have already said Economics is my best subject and I love it

INTERVIEWER: Which means you find your teacher's method of teaching student-centred, where he involves you actively in class?

RESP: I think, my teacher's method is the student-centred one

LEARNING STYLES

INTERVIEWER: How do you want to acquire information? I mean do you prefer to learn things by seeing it or hearing it or doing it.

RESP: I like to learn or acquire knowledge through seeing and doing the thing myself. If I do something, I don't forget it easily but if I only see it, I may forget. But doing it makes me remember everything that went on. This is why I want to do things.

LEARNING STRATEGIES

INTERVIEWER: What do you do to retain the things you learn in Economics? Just for econs, what do you do? (outside the classroom)

RESP: Ohk, after the teacher has done his teaching and I go home, in the evening, I take my note and then start revising what the teacher has taught me and then after that, I will close the notes, look into past questions and then refer the same questions that the teacher gave to us in class and then try if I will be able to do it on my own so if I do, then I refer to see if I'm right. I will later check in the solution book to see if I'm correct. And if I am correct, then it tells me that I have

understood what I was taught in class. If not, I have to take my note and revise it again.

INTERVIEWER: So that's what you've been doing?

RESP: Yea, and also, there's another friend...after school, I consult her to see what they have done in Economics since we have different teachers. So I compare what we have done to what they have done and this helps me a lot.

INTERVIEWER: Do you have a plan for studying Economics?

RESP: That's why I have my personal time table. So I have all the subjects I study here on the time table. I have a period for econs.

INTERVIEWER: How do you often assure yourself that you are making progress with respect to your studies?

RESP: Often, I assure myself when I'm able to answer questions that the teacher poses in class, it tells me that I'm making progress.

INTERVIEWER: Do you often set questions for yourself and answer them and refer to your notes?

RESP: Yea, especially when I am there I set imaginative questions. I ask the questions in my mind and ask myself, what is this? I also answer it in my mind and if I don't get it right, then I refer to my notes or text book. Now that moment that I refer to my notes or text books, it sticks in and I will never forget the concept.

INTERVIEWER: What happens when you realize that some topics are difficult for you to understand, what do you do?

RESP: What I do is that because that topic is difficult to understand, I continuously read my note and forget other topics which are not that difficult. I do this until I master the topic.

INTERVIEWER: And are you able to overcome that difficulty if you learn it continuously?

RESP: If still, I don't understand, I tell my teacher to explain that thing for me.

INTERVIEWER: is there any topic in econs you can easily recollect as difficult

RESP: Ok, it is theory of production. It is somehow difficult and somehow cheap because it involves a lot of diagrams and the notes too are plenty.

INTERVIEWER: In studying econs do you rely on what the teachers tell you or what the syllabus or the text books say?

RESP: What I rely on is the course outline which the teacher gives to us at the beginning of every term. Our teacher also gives us the WAEC syllabus and these are what I rely on. Then I study according to the topics.

INTERVIEWER: How do you manage your time as a day student?

RESP: After the school period, I stay in the school, maybe for one hour to study personally till about 4:30pm then I leave the campus. So at home, I have to prepare food and learn what I was taught for the day.

INTERVIEWER: So you study at home? You don't have prep time

RESP: yes sir, but sometimes, I come for prep.

INTERVIEWER: Do you see any advantage that boarders have over you as a day student?

RESP: Aah ok, for the boarders, I will say they have a time to prep that the school has bound them to learn that time. Some of them go there and sleep without learning nothing when there is no supervisor. But when you are a day student, that one you care for yourself so you have to manage well. But I will say that we day students too have opportunity to learn.

INTERVIEWER: But you know that the boarders have genial place for studies. They have libraries and other friends they can consult and the rest, don't you think you are disadvantaged because you don't have all these?

RESP: It may be. But as a student ... you have to decide to come to prep if you don't have light to achieve your aim. I prefer always to be on campus because my room is sometimes very hot and I find it difficult learning there.

INTERVIEWER: Now, when others too find certain topics difficult, you help them?

RESP: Yes,

INTERVIEWER: Do you also rely on others for help?

RESP: Yes, if I find some challenging topics, I consult friends who can help to clear my doubts.

INTERVIEWER: You do struggle to pass Economics?

RESP: I make sure I understand all the topics so I will say I don't struggle to pass Economics.

INTERVIEWER: How will you rate your performance in Economics?

RESP: I will say I am part of the best Economics students in the school.

INTERVIEWER: So in trying to seek help from somebody, do you feel shy in doing that?

RESP: No, because that topics when I find it difficult to understand, it puts burden on me so going to ask or telling my colleagues don't make me feel shy at all.

INTERVIEWER: What about if you are approaching a female?

RESP: no, because now the world has changed so I don't but mostly I always ask from the boys.

INTERVIEWER: But do you think your status as a day student affects the way you learn Economics.

RESP: No, it doesn't

INTERVIEWER: Has it influenced your way of learning?

RESP: Yea, because in the boarding, sometimes, you feel to learn but they will say, it is not time. In the boarding house the rules are strict but as a day student you can learn at anytime.

INTERVIEWER: Would you say also that your school type influences your learning strategy choice?

RESP: Sir, as in...?

INTERVIEWER: As in the type of school you find yourself in; does it in any way affect the kind of learning strategy you adopt?

RESP: Not always because I think not where you are but what you want to achieve. So for me, the type school doesn't influence my learning

RESP: Yes, I think because schools differ and the differences influence how students learn.

INTERVIEWER: How best do you think you can learn Economics apart from what you are doing now?

RESP: I can refer to the other classes and find out what they have been taught.

INTERVIEWER: Is there any other thing you will want to share with me?

CLOSURE

INTERVIEWER: What suggestions will you offer on how students can be helped to better learn Economics? your suggestions to teachers, headmistress and the like.

RESP: Teachers and heads should [present prizes to motivate students to put up their best in class. Teaching learning materials should also be provided. Teachers must also take students on excursion to get field experience when they are teaching practical-oriented topics. They should also start thinking about community learning centres where day students can go to learn because where some students stay is far from the school.

INTERVIEWER: Is there any other thing you want to ask?

RESP: No sir

INTERVIEWER: Thank you very much for availing yourself and talking to you. Thank you very much.

INTERVIEWEE 3 [ES3]

INTERVIEWER: ... before we start, I would like you to briefly identify yourself.

RESP: I am Lizy and I am in 3B2 and a day student.

INTERVIEWER: are you a boarder or a hosteller?

RESP: I am a day student.

INTERVIEWER: You have studied Economics for well over two years. How do you find it? How do you find your study of Economics?

RESP: oh Economics is ... I see it as one of the best subjects because I can apply it in our lives. It is not any subject which anyone should find difficult. That is how I see Economics today.

INTERVIEWER: So there hasn't been any point where you find any particular topic challenging to you?

RESP: Sometimes, I find some of the topics to be, not difficult but confusing. eerr... and especially how you use the graphs and diagrams. It's not difficult but confusing

INTERVIEWER: Alright, so given the chance you stop doing Economics?

RESP: No, I will not leave Economics because we apply what is in Economics in our daily lives. Whatever we learn here when we go out, we apply it. So I will not leave it for any other subject.

INTERVIEWER: What motivated you to do Economics? Does this motivation influence the way you learn in any way?

RESP: Errh, I was not having any idea about Economics but the course I chose led me to study Economics as an elective subject. I was not having any idea about Economics.

INTERVIEWER: What about the motivation?

RESP: Errhm... it is my motivation that pushes me to read my notes, rehearse, and develop a plan for studies.

TEACHING METHODS

INTERVIEWER: What sort of class activities do your econs teachers do in class. What do you see them do in class?

RESP: Ok, when they come, eerr when they are teaching, they will be asking questions so we the students will give them the answers they ask. Sometimes too, when he's teaching he tries to let us understand what he is talking about. He discusses whatever he teaches and sometimes too the topic that we will be treating later, he will tell us to read around it. So we go and read about it and when he comes to class he will be asking questions about it.

INTERVIEWER: So econs classes are always interactive?

RESP: Yes.

INTERVIEWER: So how will you describe your teacher's teaching method: teacher-centred where teacher does almost everything or student-centred where students are actively involved?

RESP: No, because students are actively involved.

INTERVIEWER: in what way(s) do these activities promote your learning. if yes, how?

RESP: Errhm learning together with a lot of people, I like to study on my own. When he is teaching, he picks his phone calls and this disrupts my learning.

INTERVIEWER: With regard to the discussions, does he tell you to read ahead?

RESP: Sometimes, as a day student, there are some challenges that we face. ...the time that you get to study is very minimal and...err the subjects are many so learning this, learning that, makes it difficult for me. Sometimes, if I don't write it somewhere, I even forget it.

INTERVIEWER: So, you will say you like his teaching.

RESP: Yes, because he sometimes points at us especially if you are not talking. I see that one to help since some of us don't want to talk in class. It encourages us to learn even before we come to class. Everyone is made alert.

INTERVIEWER: So you seem to enjoy your teacher's class?

RESP: A lot

INTERVIEWER: Does he sometimes also relate the concepts to practical life?

RESP: Yes, ...he always tells us that Economics is all about life.

LEARNING STYLES

INTERVIEWER: How do you want to acquire information or learn? I mean do you prefer to learn things by seeing it or hearing it or doing it.

RESP: For me, I want to do things before I can remember them. So it is important to hear but when you do it, it helps you to acquire information as the saying goes, you do something you don't forget it but you see it you forget.

LEARNING STRATEGIES

INTERVIEWER: What do you do when you don't understand some of the things you learn?

RESP: ... I consult some of my friends so that they will explain what I didn't get.

INTERVIEWER: but do you also read your notes?

RESP: Yes. I write the points also down so that I don't forget because if I don't do that I may forget. So whenever I am learning I get my book and pen around, and I will be writing; putting the points together.

INTERVIEWER: Do you sometimes too memorize or rehearse?

RESP: Yea, ... sometimes when I apply and give account, I forget and so I go back and do it again. And when I do it again, I get it.

INTERVIEWER: Do you follow a plan in learning?

RESP: as in time table?

INTERVIEWER: Yes

RESP: Like I have my own personal time table that I use to learn aside the school one. I have designed my own which I follow.

INTERVIEWER: How do you get yourself convinced that you are making progress in your learning?

RESP: Errm, as a student, all that you have to do is to learn. So I know that once I am learning, I am doing the right thing. Reading all your note, I know it is what students are supposed to do.

INTERVIEWER: Some students assure themselves that they are making progress if they try to answer questions in class [*interviewer tries to give practical explanation to bring student mind to the question*]. What about you? What tell you that you are making progress in your learning?

RESP: Hmm, even one happened yesterday... I asked some of my friends questions just to check to see if I am making progress with my studies. I asked them questions and if they don't answer it, then I give the answer. That makes me feel on course.

INTERVIEWER: In learning, do you set your own questions and try to answer them?

RESP: Yea, sometimes I when am solving past questions, after solving it I compare my answer to the answers in the solution book. So if I don't get it right, then I check the point they used in solving that question. Then, I will again close the book and solve it again. I make use of past questions in learning.

INTERVIEWER: Are you sometimes confronted with difficult concepts in Economics?

RESP: Yea ... I find it some of the questions difficult; difficult to. Not all, a few.

INTERVIEWER: What do you do at such times?

RESP: I consult friends. And they teach me or show me how to go about it. As for the teachers, I don't normally consult them.

INTERVIEWER: Do you have preference for male or female friends you consult?

RESP: No, no, no, sometimes I consult the males or the females depending on who can help me.

INTERVIEWER: So you don't give up when some topics prove too difficult?

RESP: no because I don't know where I will go and meet it and so wherever way I will pass to get it, I must get it.

INTERVIEWER: Do you set goals for yourself in Economics [*interviewer clarifies this question to interviewee*]?

RESP: Yes, I always have. When school is about to begin, I write down the marks I want to get and work hard to achieve it.

INTERVIEWER: Eemm, what are the materials you use to study Economics: syllabus, textbooks?

RESP: Yes, they sold some syllabus in the elective areas to us so I follow the syllabus. Sometimes too, what the teacher gives us at the beginning of the term I follow it together with the textbooks such as Kokastic, simplified Economics and the rest.

INTERVIEWER: How well are you able to manage your time?

RESP: Hmm! Sometimes, when we close from school and go home, I don't go home exactly the time we close. I do my personal studies. Then when I go home too, I do the house chore and learn in the night. I also study at dawn

INTERVIEWER: Do you have a place where you study?

RESP: No, in the room that I sleep in, me and my small sister so I wait when she is asleep, then I study. I find it comfortable only when she is asleep.

INTERVIEWER: But if had other place to learn you would opt for that rather than your house?

RESP: yea

INTERVIEWER: So would you say you are disadvantaged as a day student?

RESP: no, because I don't like learning together with people. I like studying on my own. If I get a cool place to learn, I will learn, not that I am a day student. But I know that the boarders have a lot of advantages than day students. And when I get to the house, do a lot of things such that I even sometimes get too tired to learn.

INTERVIEWER: How would you describe your performance in Economics?

RESP: ok, it's good.

INTERVIEWER: Would you say, you learn so hard just to pass?

RESP: oh, I learn hard to pass. Sometimes, I get it as soon as I study it.

INTERVIEWER: Do you feel shy in approaching someone to help you understand something?

A; No, I don't

INTERVIEWER: Even the male students?

RESP: No, I don't. Sometimes, I approach the female students. I don't feel shy that I am going to this person or that person, at all because I want to pass my exams. My status as a day student is influencing the way I learn though.

INTERVIEWER: Would you say your school type influences your learning strategy choice?

RESP: Yes, ... because schools if my school has more facilities, I have to use them in learning.

INTERVIEWER: How best do you think you can learn Economics?

RESP: by researching. If we do research, I think we can do very well; doing research on our own ... because I see Economics to be practical.

INTERVIEWER: So what suggestions do you have for your teachers, head masters, parents, and the rest in helping to improve the learning of Economics?

RESP: Ok, let me take our teachers first. I think we are about to complete so the teachers, sometimes they give us plenty notes. So I think we have to start solving past questions and all the stuffs; and doing a lot of tests. They should test us from all that we have studied from first year up till this time. Some of us have learnt but forgotten so they have to go back. With my parents, I think being a day student is like, is like.... If I am a boarder I will be very happy because as a day student I

am facing a lot of consequences [*interviewee recounted personal issues bordering her*].

INTERVIEWER: What about the school?

RESP: Ok, the school, they are doing their best. Parents should help us because the boarders have a lot of privileges that we don't have.

INTERVIEWER: Do you also have anything you want to ask me?

RESP: Ok, I think that the research you are doing is very good. So I am saying kudos to me.

INTERVIEWER: Thank you so much for availing yourself. You could have declined participation. Thank you so much

INTERVIEWEE 4 [ES4]

INTERVIEWER: Can you please identify yourself.

RESP: I am Alex of.....school ... I read business and I read Economics. I am eighteen years old and a day student in my third year.

INTERVIEWER: How do you find your study of Economics? interesting? challenging, difficult?

RESP: Interesting because among the other subjects, the study of Economics for me, is very easy unlike accounting and elective maths and those things.

INTERVIEWER: Does it mean, to you Economics is a bit easier than the subject you mentioned?

RESP: Yes sir, it will be difficult for you only if you don't learn it.

INTERVIEWER: Alright, eem so if you were given the chance to choose any other subject in place of Economics, will you do that?

RESP: Eem [*laughs*], hmm ... actually, I wouldn't do that because I like it.

INTERVIEWER: Now, what is your motivation for studying Economics? [*interviewer explains to interviewee*] Does your motivation influence your learning in any way?

RESP: Errm, considering career; the future career, aha !! I want to pursue Economics course at the university and so as to achieve my career. Due to my motivation, I try to test myself, set goals that I work towards to achieve.

TEACHING METHODS

INTERVIEWER: What sort of class activities do you find your teacher engage in when they are teaching?

RESP: Errm... sometimes when our master comes, he use to teach for some periods and the rest of the periods, he conducts a test. Others too, Eeem, he used the whole period for a test so for me it seems like he is student-centred. He sees to it that every student is getting what he is saying and he involves in his lessons.

[*the Economics teacher enters and introduces another teacher to me. I needed to pause shortly*]

INTERVIEWER: So it means that students have a say in what you study in class.

RESP: yes

INTERVIEWER: Alright. Does he normally engage you in discussion or he puts a problem for you to solve?

RESP: Actually no

INTERVIEWER: What often happens then?

RESP: He sometimes do that. He gives us assignment, to research and come with the answers.

INTERVIEWER: How is a typical Economics class like? When someone comes to your class, what can they see?

RESP: he use to teach; he does the teaching, like I don't know how to put it. He does the teaching and we ask questions and he answers us but not always. I can say for the student-centred, it is 60% to 40%. He teaches 60% and we discuss 40%

INTERVIEWER: By your teacher's teaching, how do you benefit?

RESP: sometimes, he uses practical to relate the concepts so it helps us to understand. In that case, you the student you will get what he is saying. He also encourages us to revise in class.

INTERVIEWER: Would you say you enjoy your teacher's lessons?

RESP: Yes please, since he relates everything practically for us.

INTERVIEWER: So can conclude that your teacher's method promotes learning?

RESP: Yes, please. I can conclude like that, I like his classes.

LEARNING STYLES

INTERVIEWER: How do you want to acquire information or learn? I mean do you prefer to learn things by seeing it or hearing it or doing it.

RESP: I have realized that for me to acquire information, often, I have to be actively involved in the thing. It's like I have to know how to go about it. So for me, I want to do things before I can remember them. So it is important to hear but when you do it, it helps you to get information fast. Though I also learn by listening to things.

LEARNING STRATEGIES

INTERVIEWER: What do you do to rehearse what you learn in class?

RESP: Sometimes, when the teacher is teaching, I take note of what... the little things that he says. I jot points down, maybe I will need it somewhere and even when I am learning, I try to write them down. Eeeerr... Sometimes too, when I am learning, I mention the words aloud to help me remember them... when in case I have forgotten I can remember them.

INTERVIEWER: Do you sometimes also try to memorize?

RESP: yes, please

INTERVIEWER: Do you often read your notes?

RESP: Yes.

INTERVIEWER: Do you have a plan for learning in all the other subject areas [Interviewer explains further]?

RESP: That one, I have a personal time table.

INTERVIEWER: How do get convinced that you are making progress in your learning [interviewer breaks down the question for interviewee]

RESP: Please, I am not getting the question well...[after explanation] hmmm, sometimes, I do but it's not always that I write when I learn. Sometimes, I just glance through.

INTERVIEWER: So in your case, you don't actually set questions for yourself?

RESP: That one I have not tested it yet.

INTERVIEWER: What do you do when you are confronted with difficult concepts in Economics? What do you do in such situations?

RESP: Errmm, when that happens, I approach my teacher who taught me. Maybe, he can help me out, normally after the class. I try the understanding but sometimes if I don't, I get help from the teacher and my colleagues.

INTERVIEWER: So you don't give up on those topics?

RESP: No, I don't give up

INTERVIEWER: Do you set goals for yourself [*interviewer explains further*]?

RESP: of course

INTERVIEWER: How do you achieve those goals?

RESP: Actually, eerrm before I set the goal, I try and work towards it.

INTERVIEWER: What materials do you make use of in learning Economics?

RESP: We have the syllabus. Our HoD has given it to us. I combine two or more textbooks when I am learning.

INTERVIEWER: Ok, so how are you able to manage your time as a day student?

RESP: ... Eerr m not getting your question. [*not getting the question after explanation*]... I make use of my personal time table.

INTERVIEWER: do you have a place for learning?

RESP: Sometimes, I move to campus, we are near...errr..... so we sometimes go there and learn.

INTERVIEWER: Why move all the way there?

RESP: Because you may meet someone who can help you

INTERVIEWER: You prefer to learn in a serene place?

RESP: Yes please.

INTERVIEWER: Would you say, you try hard to learn in order to pass?

RESP: Yes, please

INTERVIEWER: Do you also do something to help your other colleagues who may need your help to?

RESP: Yes, actually we try and discuss the problem for everybody to get it. We all try and discuss so everybody can get it. My friends too some approach me and I help them out.

INTERVIEWER: Do you feel shy approaching, let say, a female colleague?

RESP: No, I am free with everybody.

INTERVIEWER: In trying to learn with your colleagues, do you consider sex? Do you have preference for males other than females?

RESP: Even in my class, we are all boys

INTERVIEWER: Has your status as day student influenced your learning in any way?

RESP: Yes, sometimes

INTERVIEWER: How?

RESP: Let's say, when school period is over, I will walk to the house and by the time I get to the house, maybe I have to rest before I study. By this time your colleague boarders will be busy learning so for me I think we don't get the privilege our boarders get.

INTERVIEWER: and also you are not supervised to learn?

RESP: Yes please.

INTERVIEWER: How best do you think you can learn best as a day student?

RESP: Please, I am not getting the question [*interviewer throws light on the question*]

Errm, actually, I am living with my uncle. No one is pressuring me to learn. I do it, I have a goal to achieve so I do it and I work hard towards it.

INTERVIEWER: Would you advocate for a community/public learning centres where day students can go to learn?

RESP: Eeemmm, as you said there should be a learning facility where day students can also benefit

INTERVIEWER: Apart from all these, what suggestions would you give to your heads, teachers, governments, and parents to make your learning better?

RESP: About the teachers, I think teachers should use student-centred approach; they should give home work and make sure they mark in time. They should give assignments because some of the students when we go home, we don't learn. We just roam about. Giving the assignments will make them ready to learn. The

parents should also force use to learn. They should pressure us. For heads, they must put up learning centres where the environment is conducive for learning.

INTERVIEWER: Is there anything you want to share with me?

RESP: [*the interviewee shared a private concern on career guidance*]

INTERVIEWER: It's been nice talking to you. Thank you very much.

INTERVIEWEE 5 [ES5]

INTERVIEWER: Briefly introduce yourself as we start our conversation.

RESP: I am Ekor, I am in the home Economics class (3H1). I am a boarder and a final year student. Economics is one of my elective subjects.

INTERVIEWER: Alright, so you study Economics?

RESP: Yea, sir for almost three years now,

INTERVIEWER: how do you find the study of econs? Is it difficult, interesting, why do you say so? Is it difficult? Why do you say so?

RESP: I will say Economics is interesting but difficult [*laughs*].

INTERVIEWER: why?

RESP: It is interesting because it's practical but difficult because it is full of calculation.

INTERVIEWER: So it is difficult?

RESP: No sir, it not really only that my teacher sometimes makes it appear like that.

Q; How?

RESP: He does not explain the things well at times and seems to rush us through. Sometimes, he tells us if we don't hurry up we can't finish the syllabus.

INTERVIEWER: but hope you are coping all the same?

RESP: Yea sir I am ok

INTERVIEWER: What is the reason or your motivation for studying Economics? Does your motivation influence your learning in any way?

RESP: I didn't want to choose Economics before oo, but they gave it to me because of the programme I chose.

INTERVIEWER: Does your teachers' method of teaching influence your learning strategy? How?

RESP: Errm... sir, I think the teaching method, if it is good helps me adopt the appropriate strategy but if it is not suitable, I rely on others for assistance.

INTERVIEWER: So if you are given the chance to drop Economics, will you do it and go in for another subject?

RESP: Yes sir! I will do it and go in for maybe clothing and textiles which I like so much [*laughs and says I shouldn't tell anyone about this secret*].

TEACHING METHODS

INTERVIEWER: What kind of classrooms do you see your teachers engage you in?

RESP: Our teacher, excuse me to say, he is not serious sir. He comes to class and crack jokes. Sometimes, we spend all the time telling stories. Sir, I will say it if nobody says it. All of us are aware about this. We have complained to the headmistress on two occasions and she has promised to talk to him. I haven't seen any improvement.

INTERVIEWER: What does your teacher do in class.?

RESP: he teaches but we don't understand and we can't also ask him questions. When you do, he will dress you like a woman. He does all the talking anytime he feels to teach. He gives assignments sometimes from what he hasn't taught us in class. Please sir, we are suffering in this school paa.

INTERVIEWER: So, he doesn't give you group work, assignments and the like?

RESP: sometimes he gives group work and we try our hands to do it.

INTERVIEWER: So, all these activities that he does with you, do they help you to learn?

RESP: No sir, it rather makes us develop fear for Economics. that's why I say for me Economics is difficult. Maybe if we had a better teacher, we would like the subject.

INTERVIEWER: So, you don't enjoy your teacher's lessons?

RESP: no sir, at all.

INTERVIEWER: Which means you find your teacher's method of teaching teacher-centred [*interviewer explains the concept to interviewee*]

RESP: Yes sir.

LEARNING STYLES

INTERVIEWER: How do you want to acquire information? I mean do you prefer to learn things by seeing it or hearing it or doing it.

RESP: I like to learn or acquire knowledge through seeing and doing. If think you first have to do so that it will stick in the mind. When I do, I don't forget easily but if I only see it.

LEARNING STRATEGIES

INTERVIEWER: What do you do to recall things you learn in Economics [*I explain it further*]? (outside the classroom)

RESP: Ohk, when the teacher finishes teaching, I take my text books and revise from the text books. I read through the notes. I try to solve questions on my own sometimes together with friends from the business and general arts programmes.

INTERVIEWER: So that's what you've been doing?

RESP: Yes sir also, there's another friend...after school, I consult other friends in the dormitory especially those who are good in Economics.

INTERVIEWER: Do you have a plan for studying Economics?

RESP: yes sir. Because Economics is my headache now among all my elective subjects. It gives me sleepless nights. I follow a personal time table.

INTERVIEWER: How do you often assure yourself that you are making progress with respect to your studies [*interviewer explains what this means*]?

RESP: I do that by setting questions, solving past questions and helping my friends. When I am able to do these, it tells me that I'm making progress.

INTERVIEWER: Do you often set questions for yourself and answer them and refer to your notes?

RESP: Yea, sir, I do that a lot.

INTERVIEWER: What happens when you realize that some topics are difficult for you to understand?

RESP: I seek help from other colleagues but not my teacher. Sometimes too, I continuously read my note and make sure I get it.

INTERVIEWER: And are you able to overcome that difficulty if you learn it continuously?

RESP: yes sir

INTERVIEWER: In studying cons do you rely on what the teachers tell you or what the syllabus or the text books say?

RESP: I rely on is the course outline which the teacher gives to us but frankly speaking I don't rely on my teacher.

INTERVIEWER: How do you manage your time as a boarder?

RESP: I don't play with preps. Now too as a senior, we have enough time to learn and I use my time properly.

INTERVIEWER: does your status as a boarder influence your learning?

RESP: Yes, I will say we have enough time to study at prep that the school has bound them to learn that time. For the day students, I can't say much about them.

INTERVIEWER: But you know that the boarders have congenial place for studies. They have libraries and other friends they can consult and the rest, don't you think you are at an advantage position as a boarder?

RESP: yes sir, that is true.

INTERVIEWER: Now, when others find certain topics difficult, do you help them?

RESP: Yes, but I also have problem [*bursts into laughter*]

INTERVIEWER: Do you also rely on others for help?

RESP: Yes, if I find some challenging topics, I consult friends who can help like I said earlier on.

INTERVIEWER: You do struggle to pass Economics?

RESP: Yes, I really struggle to pass.

INTERVIEWER: How will you rate your performance in Economics?

RESP: I will say average, maybe.

Q; So, in trying to seek help from somebody, do you feel shy in doing that?

RESP: No, I don't feel shy. I am a fee person with free mind.

INTERVIEWER: What about if you are approaching a female?

RESP: No, some of them are very good. In my class, almost all are females so I don't have problem approaching them at all.

INTERVIEWER: How best do you think you can learn Economics apart from what you are doing now?

RESP: I think we have to get dedicated teachers and our learning can be better.

INTERVIEWER: Is there any other thing you will want to share with me?

RESP: no sir.

CLOSURE

INTERVIEWER: What suggestions will you offer on how students can be helped to better learn Economics? Your suggestions to teachers, headmistress and the like.

RESP: Teachers must be dedicated. They must not be angry anytime we ask questions. They must research before coming to class and they must be serious with teaching. The heads must provide the necessary teaching materials. Here, we lack most of the things which is not the best.

INTERVIEWER: Is there any other thing you want to ask?

RESP: No sir

INTERVIEWER: Thank you very much for participating in this study. I am very grateful. Thank you very much.

INTERVIEWEE 6 [ES6]

INTERVIEWER: Can you please identify yourself.

RESP: I am Florence I am seventeen years old, offering General Arts. I am also in my final year.

INTERVIEWER: Are you a boarder or a hosteller?

RESP: I am a boarder.

INTERVIEWER: How have been studying Economics for some time now. How do you find Economics [*interviewer explains further*]?

RESP: it's cool but some of the topics challenge me.

INTERVIEWER: Why?

RESP: Some topics are challenging such that when the teacher teaches, you need to do further studies before you will understand. But I like Economics

INTERVIEWER: So it means not all the topics are kind of friendly or...?

RESP: Yea..., some are really tough especially, the calculations on national income accounting, and the theory of production.

INTERVIEWER: What makes the study of Economics interesting?

RESP: It is a practical subject which everybody uses in the daily living activities

INTERVIEWER: What is your motivation for studying Economics? Does your reason/motivation influence your learning in any way?

RESP: I was advised to do Economics because of the future job opportunities. My motivation makes me learn harder no matter the obstacles I face in my studies.

TEACHING METHODS

INTERVIEWER: What sort of class activities does your teacher engage you in when they are teaching?

RESP: He uses every possible means. He explains, he discusses, he allows us to share our thoughts, sometimes we even debate in the class.

INTERVIEWER: So, in your view, who does more of the talking?

RESP: All of us. He does and we also are given the time to do.

INTERVIEWER: So, Economics lessons are interesting because of the interactions?

RESP: Yes, they are very interesting.

INTERVIEWER: In what way(s) do these activities engage students?

RESP: Yea, we do presentations, we ask questions, we do group work, and class assignments and all that.

INTERVIEWER: What method would you have preferred that your teacher used instead of what he is using now to make you learn better?

RESP: I think the way he teaches is very interesting for us all. It's okay. We interact a lot.

INTERVIEWER: Do you have Economics textbooks endorsed by the GES for use?

RESP: Yea sir.

INTERVIEWER: In what way will you say your teacher's teaching method promotes active learning?

RESP: There are a lot of activities for us all. He doesn't also concentrate on only a few. Our teacher does not discriminate at all. He loves all of us.

INTERVIEWER: Do you find your teacher's method of teaching teacher-centred or student-centred [*interviewer explains the terms further*]?

RESP: It is teacher-centred.

INTERVIEWER: If given the chance, will you choose any other subject over Economics?

A; Eeehh, no sir. I can't stop learning Economics. I will pursue it to the university.

INTERVIEWER: Were you forced to do Economics?

RESP: No sir I have interest in it that is why I chose to do Economics. I don't think I was forced at all.

LEARNING STYLES

INTERVIEWER: How do you want to acquire information [*interviewer explains the learning styles further to interviewee*]? I mean do you prefer to learn things by seeing it or hearing it or doing it.

RESP: Sir, most of the time, if I see the stuff, I remember better. Normally, I like to learn by doing; I don't like to only see it. Also, I like to hear it. When I hear something, it also helps me to recollect in future.

LEARNING STRATEGIES

INTERVIEWER: What do you find yourself doing (outside the classroom) to remember or retain what teachers teach in Economics?

RESP: I try to apply what I learn.

INTERVIEWER: Apart from this, when it's time for class tests, do you 'chew and pour'?

RESP: I rather revise what the teacher taught you and I try to recollect what I revised.

INTERVIEWER: How do you learn?

RESP: I read the notes but sometimes, I ‘chew’ certain portions. I also try to memorize.

INTERVIEWER: In so doing, you sometimes self-test?

RESP: Yea, at times in my class after learning, I set my own trial questions and I try to solve them. Other times, we do it in groups.

INTERVIEWER: Any other way you learn?

RESP: Errm,.. Sometimes, I help some friends and through that, I learn too.

INTERVIEWER: Do you make use of other facilities like books, library and others in learning?

RESP: Yes sir. The library helps us a lot and we go there often when it’s time to learn.

INTERVIEWER: Can you make a list of how you learn?

RESP: I memorize, I read through notes, and I help others at times. At times, I consult others for help too. I also approach my teacher to help me.

INTERVIEWER: Do you have a particular people you go to? Do you consider their sex, say you go to only males or females?

RESP: If you have a friend (whether male or female) and you think he/she can help you, you go to the person. What you need is help.

INTERVIEWER: Do you also sometimes learn Economics by applying concepts from other subject areas?

RESP: Yea, yea, like mathematics, core math, in change of subject substitution in equations, we apply math concepts in Economics. I remember when I first came to the Economics class, our then teacher told us that Economics is full of mathematics.

INTERVIEWER: Do you have a plan at the beginning of every term that you follow in studying Economics?

RESP: Yes, I have a personal plan I follow.

INTERVIEWER: In trying to learn, how do you assure yourself that you grasp the concepts [*interviewer explains further*]?

RESP: my ability to answer questions tells me that I am on course. When I test myself and find that the answers I have provided are the correct, it gives me satisfaction.

INTERVIEWER: what do you do anytime you are confronted with difficult topics in Economics?

RESP: I seek help from others or my teacher.

INTERVIEWER: What else?

INTERVIEWER: So, you don't abandon the topic?

RESP: no, I don't do that at all.

INTERVIEWER: Do you have an advantage in learning as a boarder over day students?

RESP: Yea, ... because being a day student, there's no time schedule. But boarders have scheduled times for learning unlike day students.

INTERVIEWER: Do you set goals for yourself? That this term in Economics, I don't want to get anything below this or that mark?

RESP: Yea, I set goal and work to achieve it. Sometimes, my parents even set the goals for me and expect me to achieve them through hard work

INTERVIEWER: And how do you make sure that these goals are achieved?

RESP: I study hard to realize the goals.

INTERVIEWER: In studying Economics do you rely on what is in the syllabus or what you see in other materials?

RESP: Yes, but also, I rely on textbooks and what the teacher gives.

INTERVIEWER: Do you have a particular place for learning?

RESP: Yea,.... I use our classroom most often because it is quieter because it is closer to our senior house mistress' bungalow. Other places can be very noisy.

INTERVIEWER: Where will you normally want to learn? A quiet or a noisy environment?

RESP: [*laughs*] of course, sir. I like quiet environments.

INTERVIEWER: Would you rate yourself among the best Economics students?

RESP: Yes sir. I am among the best students in Economics.

INTERVIEWER: Would you say you put in so much effort in order to pass Economics?

RESP: Yes sir, without effort, you can't achieve anything.

INTERVIEWER: Do you feel shy calling on someone to help you clarify doubts in economic concepts?

RESP: No, but I don't often seek help from others; rather my colleagues come to me for help.

INTERVIEWER: Eeeih, then you are an exceptional student?

RESP: Not so sir. I only try to do my best.

INTERVIEWER: Is your school influencing your learning in any way?

RESP: Yes, here, everyone learns and that alone can ginger you to learn. We also have some of the learning facilities.

CLOSURE

INTERVIEWER: What suggestions will you offer on how students can be helped to better learn Economics?

RESP: There should be more tests and exercises for students. Also, government must help parents to get good text books for us to use. I think they should think about reducing the number of subjects. it's not helping us at all.

INTERVIEWER: What about your teacher's method?

RESP: No, I don't think anything should change with my teacher's teaching.

INTERVIEWER: What will you suggest to your headmistress for instance?

RESP: She is already doing her best so I don't have anything as a suggestion for her.

INTERVIEWER: Anything you wish to ask more anything you will like to share with me?

RESP: No

INTERVIEWER: It's been nice talking to you. Thank you very much.

RESP: You are always welcome, sir

End of interviews